VOAR.

SONY

VIDEO CASSETTE RECORDER Beta

SL-C9E

photocopy for service-use only

OPERATING INSTRUCTIONS page 2

Before operating the unit, please read this manual thoroughly, and retain it for future reference.

MODE D'EMPLOI page 34

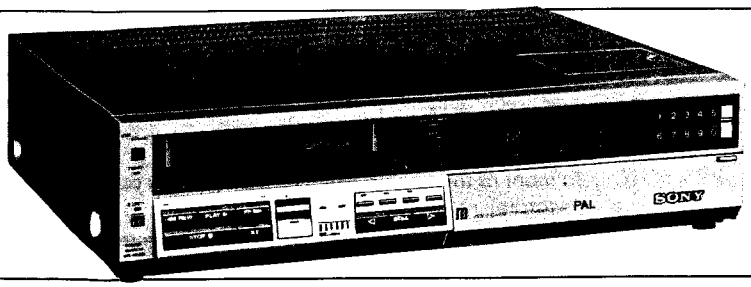
Avant la mise en service de l'appareil, lire attentivement ce mode d'emploi et le conserver pour toute référence ultérieure.

BEDIENUNGSANLEITUNG Seite 66

Lesen Sie vor der Inbetriebnahme des Videorecorders diese Bedienungsanleitung sorgfältig durch, und bewahren Sie sie zum späteren Nachschlagen gut auf.

GEBRUIKSAANWIJZING blz. 98

Lees de gebruiksaanwijzing aandachtig door alvorens het apparaat in gebruik te nemen en bewaar hem voor eventuele naslag naderhand.



This machine can be used with any video cassette tapes having the mark Beta.
Ce magnétoscope accepte toutes les cassettes vidéo portant le label Beta.
In diesem Gerät können ausschließlich mit der Markierung Beta versehene Videocassetten verwendet werden.
Deze recorder kan gebruikt worden met elke videocassette met het merkteken Beta.

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English

FEATURES

Space-saving front loading design

Ease of operation
Recording can be made by simply inserting a video cassette and depressing one button.
Feather-touch logic-controlled function buttons switch the recorder directly from one mode to another.

Variable playback speed
Tape speed can be changed to any of these modes: still, frame-by-frame advance, slow-motion and double speed.

Unique picture search function
To locate a particular portion rapidly, the tape may be advanced or rewound at high speed while it displays the pictures on the TV screen.

Timer recording
With the aid of the built-in digital timer, a TV programme can be recorded while the recorder is unattended. Recording may be started at any time and stopped after a predetermined interval on any of the next fourteen days. In addition, programming of up to 9 timer settings is possible.
The timer is simple to set.

Easy tape location
APS function: To locate the starting point of any recorded programme.
GO TO ZERO function: To locate any point on a tape for repeat viewing of a particular scene.

Audio dubbing—an audio programme can be added to any existing video recording.
Remote control—with the supplied remote control unit, tape transport can be remotely controlled.
14-pin camera connector—when connecting a Sony video camera equipped with the K-type connector, a single cable can be used for the video, audio and tape run/stop signals, as well as for camera power.

WARNING

To prevent fire or shock hazard, do not expose the set to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

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BEFORE OPERATING
PRECAUTIONS

On safety

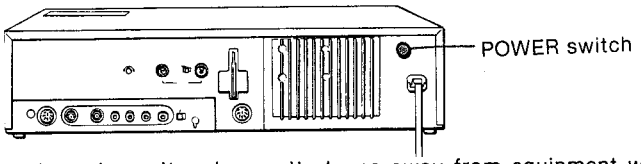
- This unit operates on 110 – 240 V ac, 50/60 Hz.
- Should any solid object or liquid fall into the cabinet, turn off the unit and have it checked by qualified personnel before operating it any further.

On installation

- Allow adequate air circulation to prevent internal heat build-up. Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation grille.
- Do not install the unit near heat sources such as radiators or air ducts or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- The unit is designed for operation in a horizontal position. Do not install it in an inclined position.
- Do not install the unit near an AM receiver, since a noise may be heard when listening to the AM programme.

On operation

- When the unit is not to be used for a long period, turn the power off to conserve energy and to extend the useful life of your unit. If you turn off the POWER switch located at the rear, power for all circuit, including the clock section will be shut off.



- Keep the unit and cassette tapes away from equipment with strong magnets, as for example, a microwave oven or a large loudspeaker.
- Remove and store video cassettes after recording or playback.

On cleaning

Clean the cabinet, panel and controls with a dry soft cloth. Do not use a moistened cloth or any type of solvent, such as alcohol or benzine, which might damage the finish.

On repacking

Do not throw away the carton and packing materials. They make an ideal container in which to transport the unit. When shipping the unit to another location, repack it as illustrated on the carton.

On colour broadcasting systems

This machine is designed to record and play back using the PAL colour standard. Recording and playback of video sources based on other colour systems cannot be guaranteed.

If you have any questions about this unit, contact your Sony dealer.

PREPARATION
CONNECTIONS

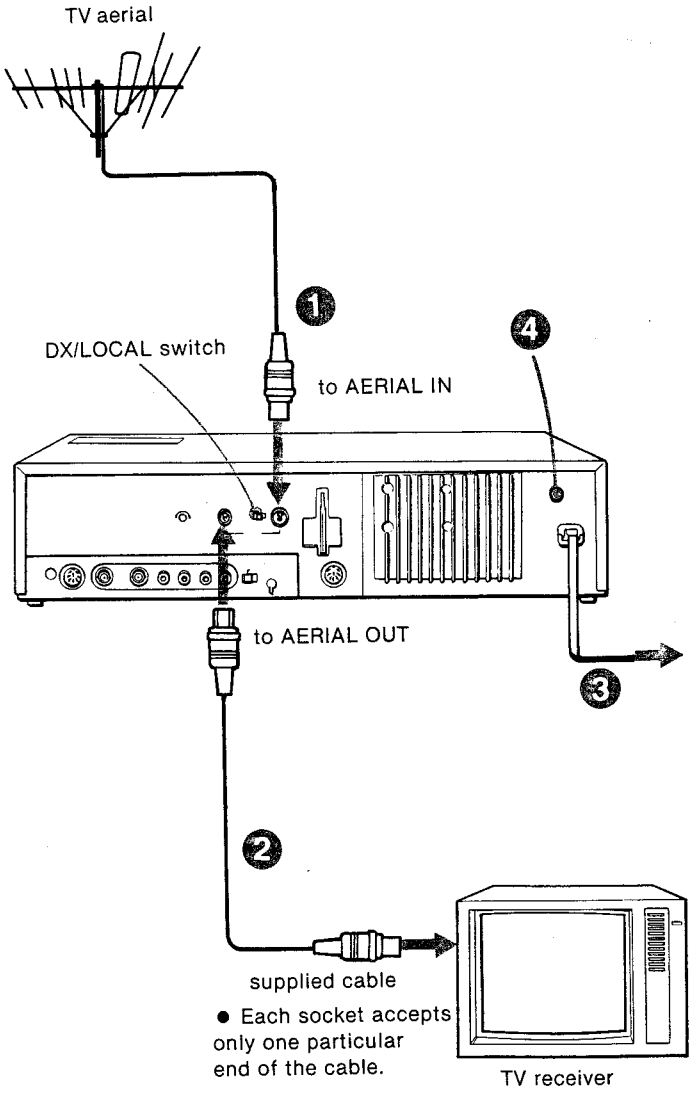
Cautions

- Unplug the TV from the mains outlet before making the following connections.
- Reconnect the mains lead after all the other connections of the video cassette recorder and the TV have been completed.
- Make sure the connections are secure. A loose connection may cause a noisy picture.

CONNECTING TO THE TV

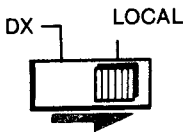
Remove the aerial cable from its socket in the back of the TV, then connect the aerial, recorder and TV following in the numbered sequence.

1. Remove the aerial cable from its socket in the back of the TV. Then connect the aerial cable to the AERIAL IN socket at the rear of the recorder.
2. Connect the aerial input of the TV receiver to the AERIAL OUT socket of the recorder, using the supplied cable.
3. Connect the recorder and the TV receiver to the mains supply with their own mains leads.
4. Press the POWER switch to ON.



Now the recorder is set up to intercept all signals from the aerial on their way to the TV receiver. The recorder then passes on the signals to the TV. This is why you can record a programme while it is being shown on the TV, or while the TV is showing another programme, or even when the TV is turned off.

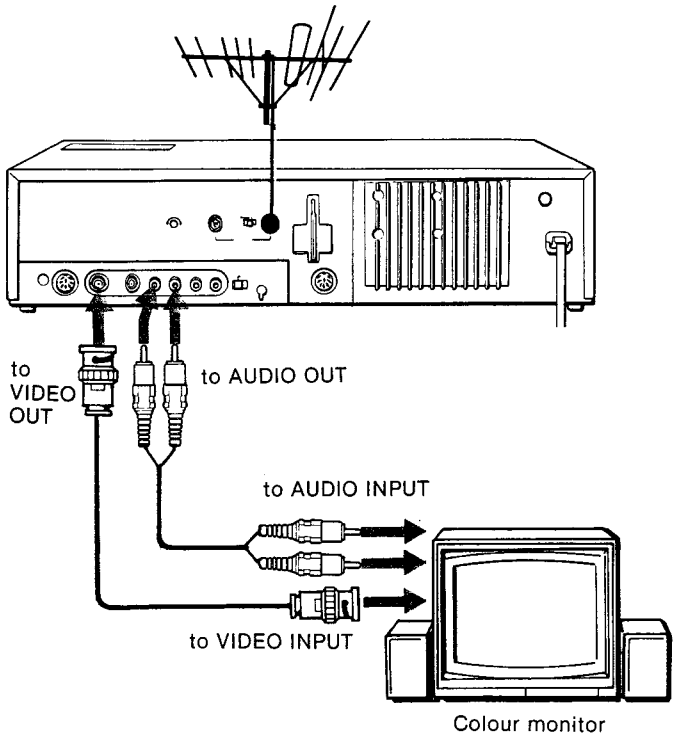
Notice for customers in a strong signal area
The recorder has a booster to assure stable TV reception. However, in areas near TV stations, where the TV signal is very strong, the picture may be affected by the booster. If this happens, set the DX/LOCAL switch on the rear panel to LOCAL.



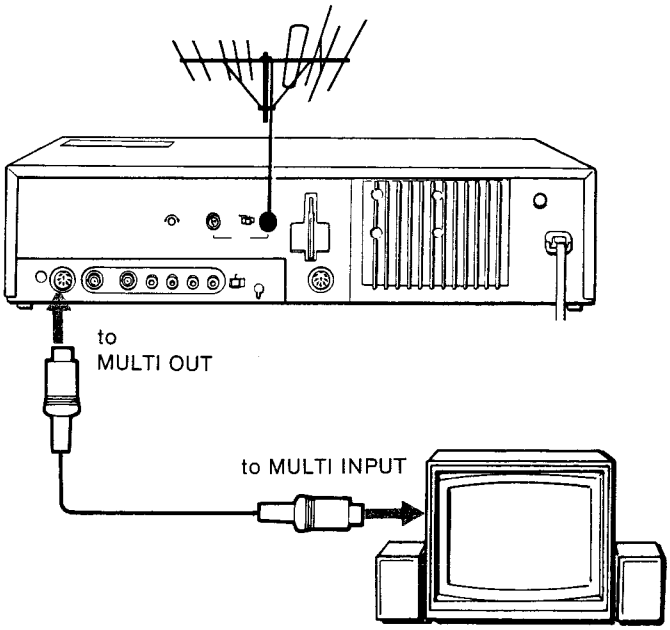
CONNECTING A COLOUR MONITOR

To obtain a higher-quality picture, connect the unit to a colour monitor, such as the Sony KX-20PS1, instead of a conventional TV receiver. The aerial should be connected to the recorder in the same way as a conventional TV.

Using the audio and video cables

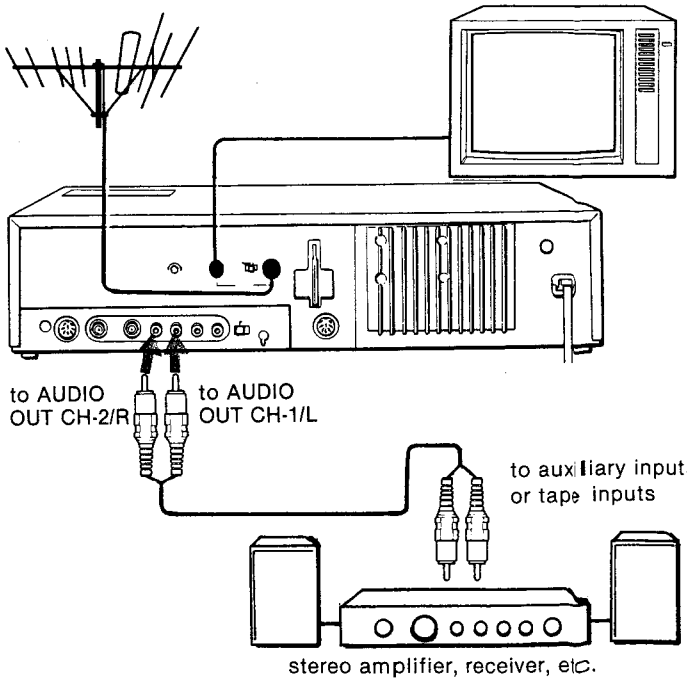


Using a multi cable
The video and audio signal connection to the Sony KX-20PS1 colour monitor can be made by the single VMC-288 video monitor cable (optional).



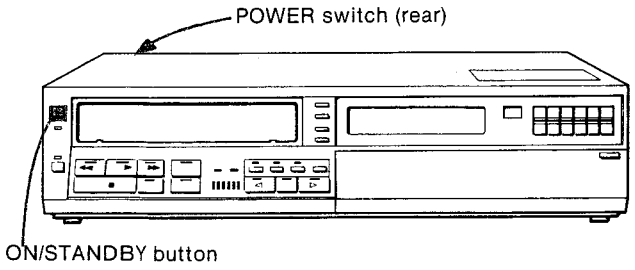
CONNECTING TO AN AUDIO SYSTEM

You can enjoy the stereo sound of the video tapes through your audio system even if your TV receiver is a conventional type.



TURNING THE RECORDER ON AND OFF

Normally, keep the POWER switch at the rear panel depressed to ON and turn the recorder on and off with the ON/STANDBY button. The POWER switch is the mains power on/off switch. When this switch is OFF, the power supply to all sections in the recorder, including the clock section, will be shut off and the timer memory will be erased. The TV will not operate in this situation, because the TV signal will not be fed to the TV.
If you keep this switch depressed to ON, the clock section will be always powered and the other sections can be turned on and off with the ON/STANDBY button.



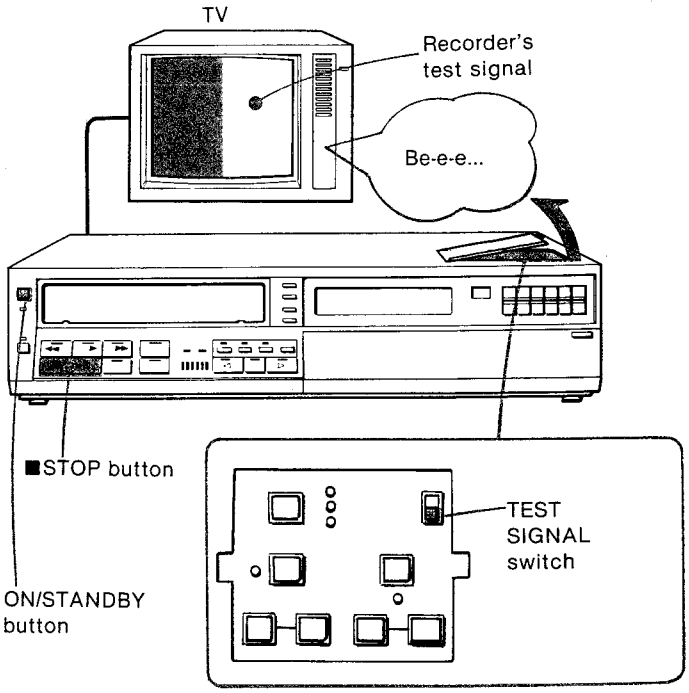
ADJUSTING THE TV

One of the television channels must be adjusted to receive the signal from the recorder.

1. After making the connections, press the ON/STANDBY button.
2. Make sure that the recorder is in the stop mode.
3. Set the TEST SIGNAL switch in the tuning compartment of the recorder to ON.
4. Turn on the TV and select a channel which is not being used to receive a TV station. Tune the channel until you see a clear black and white pattern on the TV screen and you hear a continuous tone. This is the recorder's test signal.

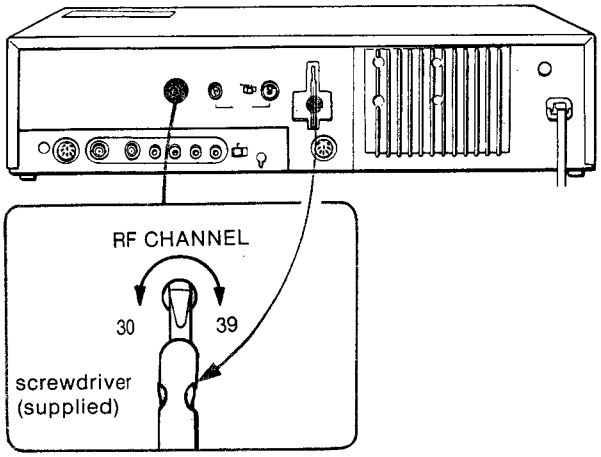
● Note that the test signal is transmitted on a channel between UHF channels E30 and E39.
— If you are not sure how to adjust your TV, please refer to the TV's instruction manual or consult your dealer.
If the test picture is free of disturbance, the TV adjustment is complete. Set the TEST SIGNAL switch to OFF.
If the test picture is not free of disturbance, proceed with the adjustment on page 6.

> Whenever you use the video recorder, you should set the TV to the channel selected in this adjustment.



If the test picture is not free of disturbance

1. Reset the TEST SIGNAL switch to OFF.
2. Adjust the channel of the TV to a channel between UHF channels E30 and E39 with the tuning control or the fine tuning control on the TV, so that the TV screen shows no picture and so that a steady rustling sound or no sound is heard.
3. Set the TEST SIGNAL switch to ON again.
4. Slowly turn the RF CHANNEL screw on the back of the recorder with the supplied screwdriver, until you see an undistorted test picture on the TV screen.
5. Now the TV adjustment is complete. Reset the TEST SIGNAL switch to OFF.



TV STATIONS PRESETTING

TO PRESET ALL THE RECEIVABLE VHF AND UHF STATIONS

The receivable TV stations, up to 30, in your area can be preset to the programme select buttons automatically in order from the TV station with the lowest frequency to the station with the highest.

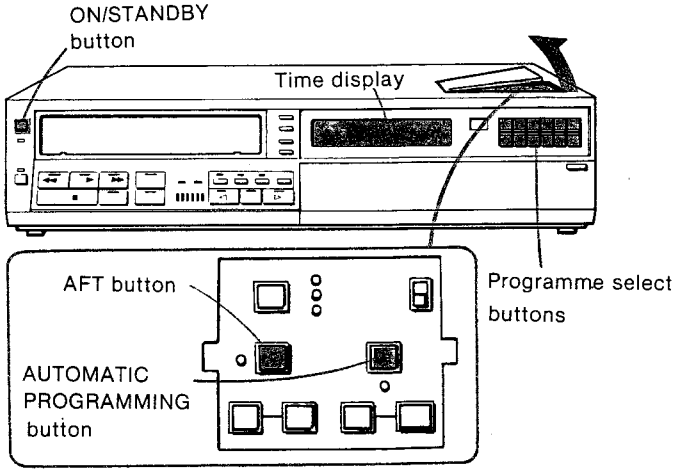
1. Turn on the recorder by pressing the ON/STANDBY button.
2. Set the INPUT SELECT switch to TUNER.
3. Open the lid of the tuning compartment and press the AUTOMATIC PROGRAMMING button. The PROG 1 will appear on the time display. The lamp associated with the AUTOMATIC PROGRAMMING button will begin flashing and all receivable stations will be tuned and memorized automatically on the programme select buttons from 1, up to 30 stations.

When the automatic programming is finished, the lamp stops blinking and the broadcast of the station memorized on the programme select button "1" will be displayed on the TV screen.

4. Check the results of the automatic programming referring to your local TV listings, by pressing the programme select buttons. For information how to press the programme select buttons, see page 9.

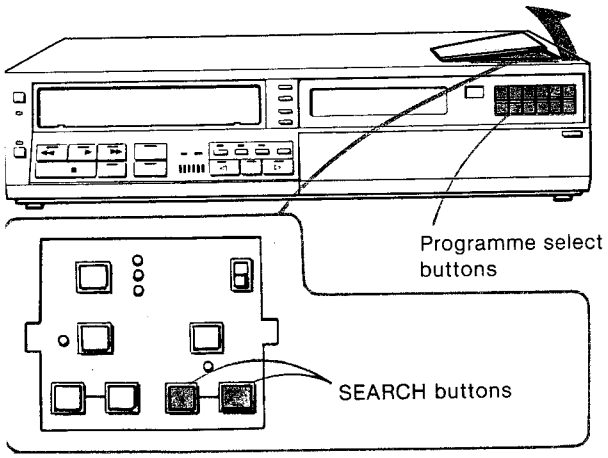
After presetting the TV stations, you can use the programme select buttons of the recorder to tune in a station for viewing as well as recording.

If there are stations which do not provide satisfactory reception and you wish to erase these stations from the memory and rearrange the sequence of stations, proceed with the adjustment described in the "TO PRESET THE SATIONS ONE BY ONE" and "CLEARING UNUSED STATIONS".



TO PRESET THE STATIONS ONE BY ONE

1. Turn on the recorder by pressing the ON/STANDBY button.
2. Set the INPUT SELECT switch to TUNER.
3. Press a programme select button for the station to be preset. For information how to press the programme select buttons, see page 9.
4. If no stations have been preset before, press the + SEARCH button. (Do not keep this button depressed.) The band indicating lamp will light up to show the tuning band of the stations.
If the TV stations have been preset already, the band indicating lamp will light up to show the present tuning band. Press the + SEARCH button to locate a station with higher freqeuncy and the – SEARCH button to locate a station with lower frequency.
The band indicating lamps will change to show the current tuning band.
When each station is received, the search will stop. Repeat pressing the + or – SEARCH button, referring to the picture on TV screen, until the desired station is received. The station is now set.
5. Repeat steps **3.** and **4.** until every station you want has been preset.



FINE TUNING

If the automatic tuning system does not give a perfect picture on a particular channel, fine tune that station manually.

1. Press the programme select button for the station to be fine tuned.
2. Keep the + or – FINE button depressed until a clear picture is obtained. (When either of the FINE buttons is pressed, the AFT on the selected station is deactivated and the AFT lamp goes off.)
If the picture quality gets worse, release the button and press the other one. Press the – and + buttons alternately until you have the best possible picture.
3. Close the tuning compartment making sure that the AFT button is still set to OFF (the lamp is not lit).

To restore the AFT on the channel, push the AFT button so that the corresponding lamp lights.

CLEARING UNUSED STATIONS

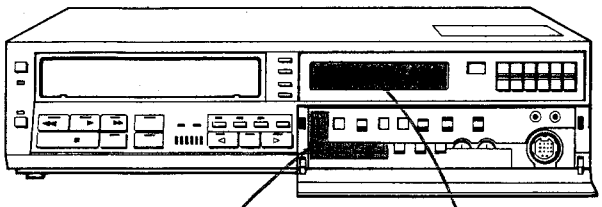
1. Press the programme select button for the station to be cleared. For information how to press the programme select buttons, see page 9.
2. Press the RESET button.

CLOCK SETTING

Example: To set the clock to **7:30 on Tuesday.***

*** Day indication**

1	Monday	5	Friday
2	Tuesday	6	Saturday
3	Wednesday	7	Sunday
4	Thursday		



Open the lid.

Button to be pressed	Time display
1 Keep pressed more than a second. CLOCK SET	Display blinking indicates the segment to be set. 0:00
2 Set the day of the week. to go back to advance	0:00
3 When today's day is displayed, NEXT STEP	0:00
4 Set the hour digit(s).	7:00

The + and − buttons can be pressed in two ways:
When you hold a button down, the segments will be advanced continuously until the button is released.
When you press and immediately release a button, the segment will be advanced by one.

5 When the current hour is displayed, NEXT STEP	7:00
6 Set the minute digits.	7:30
7 With the time signal NEXT STEP	The clock now starts operating, showing the correct time. 7:30

Blinks during the first half of each minute.

7:30

Blinks during the second half of each minute.

Zero second adjustment
Press the CLOCK SET button quickly (less than a second).
While the upper dot is blinking, the clock is set to the time displayed 00 second. For example, if the clock time is 7:30, it is set to 7:30, 00 second.
While the lower dot is blinking, the clock advances one minute and is set to the time displayed 00 second. For example, if the clock time is 7:30, it is set to 7:31, 00 second.

If you press the CLOCK SET button for more than a second, clock adjustment is required again and memorized timer settings are cleared.

When a power interruption has occurred
If power is resumed within about 5 minutes, during timer recording, the colon blinks quickly to indicate the power interruption. A rechargeable battery inside the unit will supply power so that the clock continues to keep time and any timer setting is maintained. The timer activated recording will stop during interruption and be resumed when the power is restored. The battery will be automatically fully recharged when the power cord of the unit has been connected for at least 30 hours. To reset the colon blinking, press any button for clock or timer setting.

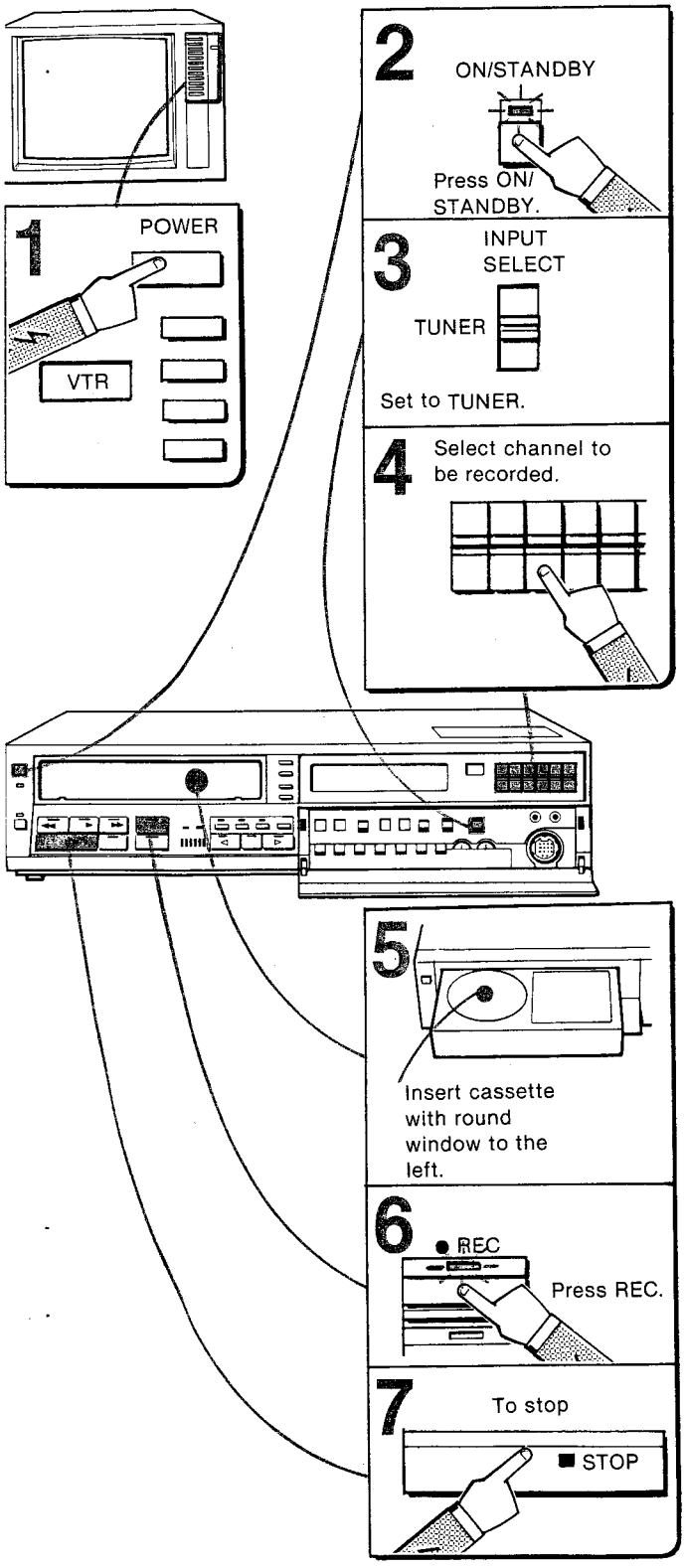
If the power interruption continues for more than 5 minutes or if the battery is not fully charged, clock stops, showing "1 (Monday) 0:00". If this happens, set the clock and timer again.
NOTE: If the main POWER switch is pressed to OFF, the same result will be obtained as in power interruption.

BASIC OPERATION

TV PROGRAMME RECORDING

OPERATING PROCEDURE

1. Turn on the TV and tune it to the channel preset for the video recorder.
2. Press the ON/STANDBY button on the recorder.
3. Set the INPUT SELECT switch to TUNER.



4. With the programme select button, select the programme to be recorded. The selected number will be displayed on the time display.
For information how to select the programme number, see "How to select the programme number".
5. Insert a cassette into the recorder correctly.
6. Press the ● REC button. Recording will begin.
7. To stop recording, press the ■ STOP button.

HOW TO SELECT THE PROGRAMME NUMBER

Stations are selected by pressing the programme select buttons: 1 to 29 and 0.
For programmes 1 to 9, press the appropriate single-digit button.
For programmes 10 to 19, first press the [10] button, then the button corresponding to the last digit of the programme number.
For example: for programme 10, press [10] and [0].
for programme 11, press [10] and [1].
Similarly **for programmes 20 to 29**, press the [20] button and then the single-digit button.
For programme 0, press the [0] button only.
● If you don't press any single-digit button within several seconds after pressing the [10] or [20] button, the previous programme setting will be automatically recalled.

CAUTION
Television programmes, films, video tapes and other materials may be copyrighted. Unauthorized recording of such material may be contrary to the provision of the copyright laws.

RECORDING ONE TV PROGRAMME WHILE VIEWING ANOTHER

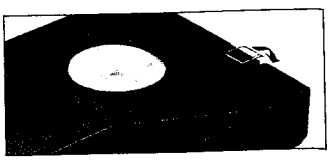
You can enjoy one TV programme while recording another TV programme as follows:
1. Start recording the desired TV programme in the usual way.
2. Select the station you want to view with the TV's programme selector.

TO KEEP A RECORDED PROGRAMME FROM BEING ACCIDENTALLY ERASED

When a new recording is made on a previously recorded cassette, the previous recording will be automatically erased.

To avoid erasing a recording
Break off the safety tab using a screwdriver or similar object.

To re-record on a cassette which has had the safety tab removed
Cover the slot with a piece of plastic tape.



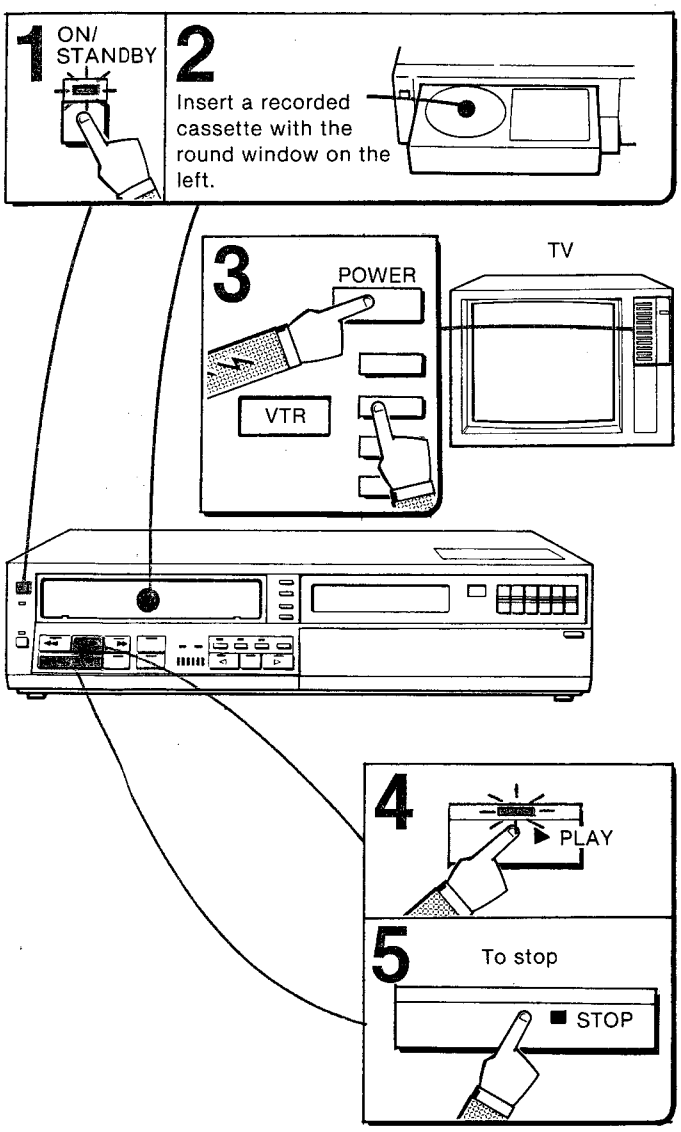
PLAYBACK

OPERATING PROCEDURE

1. Press the ON/STANDBY button on the recorder. The lamp above the button will light up.
2. Insert a recorded cassette correctly.
3. Turn on the TV and tune it to the channel preset for the video recorder.
4. Press the ▶ PLAY button. The lamp will light up and playback will begin.
5. To stop playback, press the ■ STOP button.

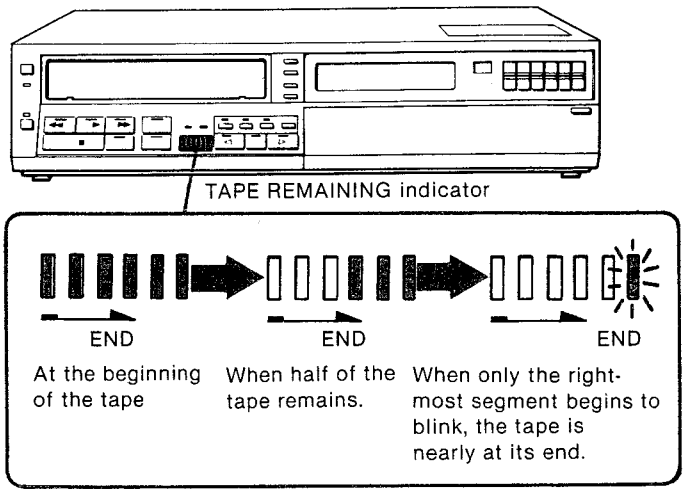
When the tape reaches the end, it will be automatically rewound.

● When the ■ STOP button is pressed, the programme determined by the INPUT SELECT switch position will appear on the TV screen.



TO CHECK THE AMOUNT OF TAPE REMAINING

The TAPE REMAINING indicator shows the amount of tape remainir


TAPE REMAINING indicator
END
END
END
At the beginning of the tape
When half of the tape remains.
When only the right-most segment begins to blink, the tape is nearly at its end.

The indicator only operates during recording or when tape on which a recording has been made is played back, rewound or advanced rapidly. It will not operate with a blank tape or with the unrecorded portion of a tape during playback, rewind and fast forward modes.

Notes

● For the first few seconds the indicator illuminations may fluctuate while the amount of tape is being detected.

● To know the amount of tape remaining during fast forward or rewind mode, play the tape back at normal speed until the illumination stabilizes, then rewind or rapidly advance the tape.

PLAYBACK OF TAPES RECORDED IN STEREO OR BILINGUAL

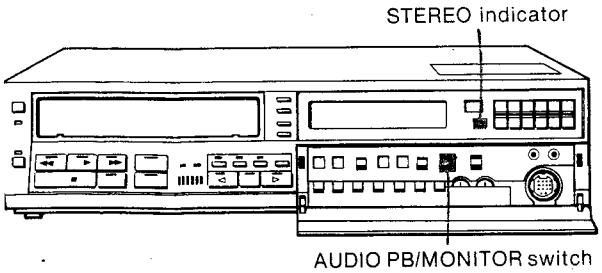
This recorder can play back tapes recorded with stereo or bilingual sound tracks. When such a tape is to be played back, set the AUDIO PB/MONITOR switch as follows.

Playback of stereo sound programmes
Normally, set the switch to the CH-1, 2 position.

Position of AUDIO PB/ MONITOR switch	When using with a colour monitor such as KX-20PS1 or a stereo system	When using with a conventional TV receiver
CH-1	sound of audio channel 1 from both left and right	sound of audio channel 1
CH-1, 2	audio channel 1 sound from left audio channel 2 sound from right	mixed sound of audio channels 1 and 2 (monaural)
CH-2	sound of audio channel 2 from both left and right	sound of audio channel 2

Playback of bilingual programmes
Normally, set the switch to the CH-1 position.

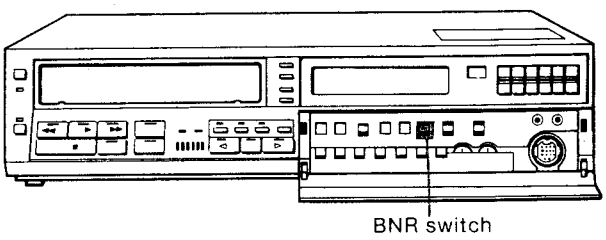
Position of AUDIO PB/ MONITOR switch	When using with a colour monitor such as KX-20PS1 or a stereo system	When using with a conventional TV receiver
CH-1	local language from both left and right	local language
CH-1, 2	local language from left, original language from right	Local language and original language are heard mixed.
CH-2	original language from both left and right	original language



The STEREO indicator will light only during the playback of a tape recorded in stereo.
- The STEREO indicator will not light when playing back a tape recorded in stereo on this recorder (see page 25), but the reproduced sound will be stereo.

TO OBTAIN HIGHER QUALITY SOUND

The BNR (Beta Noise Reduction) system reduces tape hiss and improves the signal-to-noise ratio, thus permitting clear sound with low noise.



In recording: The sound is recorded with the BNR system on regardless of the position of this switch.
In playback: For a tape recorded on the SL-C9E or on any other recorder with the BNR system on, set the BNR switch to ON. For a tape recorded on another recorder which does not have a BNR switch, set the switch to OFF.

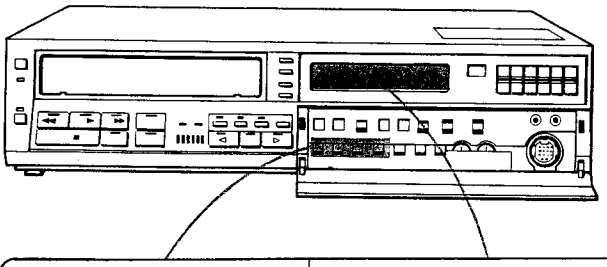
TIMER-ACTIVATED RECORDING

Recording of up to 9 events occurring **within the next two weeks** can be made automatically even when you are not at home.

Check before setting the timer
- Is the clock set to the correct day and correct time? Timer setting can only be made after the clock has been set. If the clock is readjusted after the timer has been set, the memorized timer settings will be cleared.
- Is a cassette inserted in the recorder?
- Is the cassette long enough to record the programmes?
- Does the cassette have a safety tab on the bottom?
- Is the INPUT SELECT switch set to TUNER?

Note: The timer cannot be set during recording.

Example: To record a PROG 2 broadcast from 9:00 to 11:25 on Friday in Event 3.



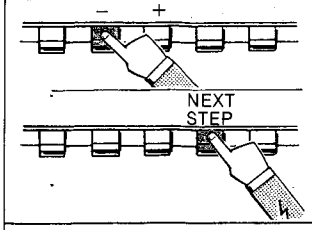
Button to be pressed	**Time display** The segment to be set will blink.
1 TIMER SET If the recorder is off, it will be turned on automatically.	turn-on indication The lowest vacant event number will be displayed.
2 Select the event. Indication changes in numerical order. – + To advance To go back to the previous indication. NEXT STEP	

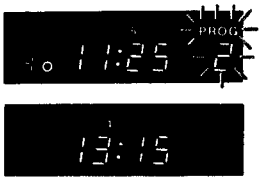
3 Select the turn-on day.
To go back to the previous indication.
– +
Indication changes as follows;
every day→Monday (1)
→Tuesday (2) .....
→Monday of the next week (1)
→Tuesday of the next week (2)
.....→every day
NEXT STEP

4 Set the turn-on time.
to advance
– +
to go back
NEXT STEP
– +
NEXT STEP
turn-off indication

5 Set the turn-off time.
– +
NEXT STEP
– +
NEXT STEP

6 Select the channel to be recorded.

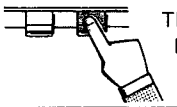




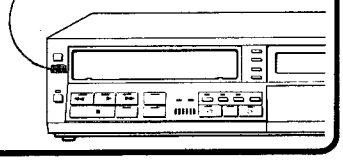
The present time is displayed.
The recorder will be turned off again if it was off before setting the timer.

7 Now the Event 3 is set. To set more events, repeat these steps. (If the unit is off, the unit will be turned on when the TIMER SET button is pressed.)

8 After all the timer settings are finished,



The TIMER lamp will light up unless an error was made.



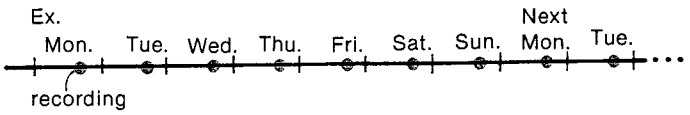
At the preset turn-on time, recording will start automatically and will stop at the preset turn-off time.

ONCE THE TIMER LAMP HAS LIT UP, NO FUNCTION OF THE RECORDER CAN BE ACTIVATED, except for checking the timer setting. To operate the recorder after setting the timer for recording, press the TIMER REC button so that the TIMER lamp goes off.

- After finishing with the recorder, be sure to press the TIMER REC button again to reactivate the timer recording standby mode.

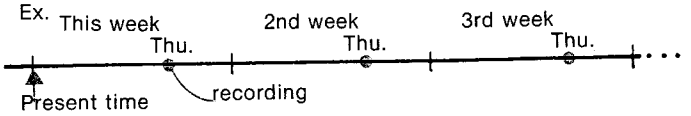
To record an event at the same time everyday

The every day of the week indication is: 1 2 3 4 5 6 7
Press the NEXT STEP button when these indications are blinking.

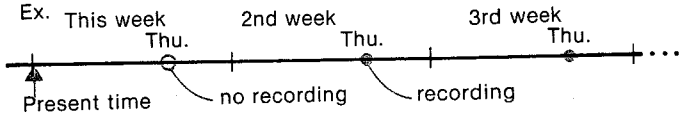


To record an event at the same time every week

Use **Event 9** whose memory will not be erased even after a recording has been made.



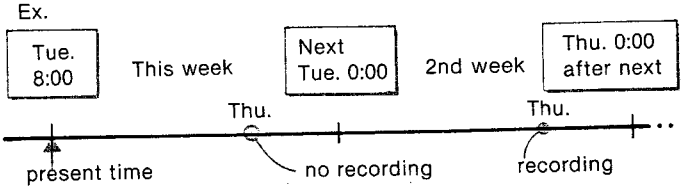
If a turn-on day is set seven days ahead, the recording will be done every week at the same time beginning the next week.



To record an event more than seven days ahead

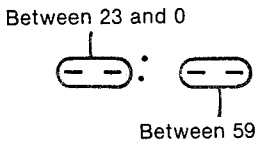
Day indication more than seven days ahead is: [1], [2], ... [7].
Press the NEXT STEP button when the corresponding day indication is blinking.
NOTE: Be sure that the next week begins at 0:00 seven days from the present day at whatever the present time is.

Ex.



To record to the end of the tape

Set the turn-off time to a time after the tape will reach its end or to "--:--". To exhibit "--:--", press + or – SELECT button.



- If you set the turn-off time to "--:--", the tape will be rewound to its beginning when the recording is finished, and after about 1 second the recorder will be turned off.

If the tape reaches the end during the timer recording

The recording stops and the tape will be rewound to the beginning and after about 1 second, the recorder will be turned off.

When the timer recording ends

The unit will be turned off automatically after about 30 seconds.

To stop the actual timer recording

Press the TIMER REC button so that the TIMER lamp goes off. The unit will be turned off automatically after about a second.

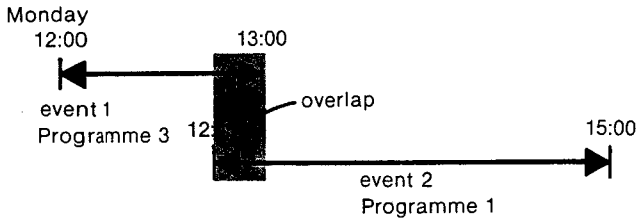
To begin recording manually and end it by the timer

Set the turn-on time earlier than the present time and the turn-off time to the desired time. Begin recording by pressing the TIMER REC button. The recording will end at the preset time.

ERROR INDICATIONS

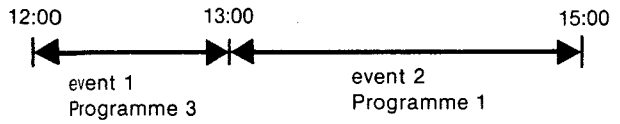
If the ● and ○ indications blink alternately and the event number also blinks when the TIMER REC button is pressed.....
It means that the setting of these events overlap. Check the settings and eliminate the overlap.

Example:
Timer setting



Even with this error indication, recording can be made. In this case, the first preset recording continues to its turn-off point and then the next recording begins.

Realized recording



● If the turn-on time of more than 2 events is the same, recording of the event having the lowest number will be made.

If the "––:––" indication blinks when the TIMER REC button is pressed .....
Check the following points:
● Did you insert a cassette into the recorder?
● Does the cassette inserted have a safety tab on the bottom?
● Make sure that the tape is not at its end.

After correcting the above points, press any timer setting button or ON/STANDBY button, then set the timer and press the TIMER REC button again.
Timer-activated recording cannot be activated if the TIMER lamp does not light.

TO CHECK THE TIMER SETTING

If the TIMER lamp lights up .....
Press the TIMER SET button. Each time you press the button, the indication will change as follows:
Example (Events 1, 2, and 5 have been preset.)

turn-on day and time of Event 1 → turn-off time →
turn-on day and time of Event 2 → turn-off time →
turn-on day and time of Event 5 → turn-off time → present time

● During actual timer recording, only the turn-off time of the event being recorded can be checked.
● To obtain a present time during the checking procedure, press the NEXT STEP button when a turn-off time is displayed.

If the TIMER lamp does not light up .....
To check all events, press the TIMER SET button. From the lowest vacant event number, all nine events are displayed in sequence with both turn-on and -off days and times, advancing one event each time you press the button twice. After the nine events have been displayed, the present time is again displayed.
To check a particualr event, press the TIMER SET button and then press the + or – button to display the desired event number. To check the turn-off time, press the TIMER SET button again.
● To obtain a present time during the checking procedure, turn the recorder off.

TO CLEAR THE TIMER SETTING

The memory of an event will be automatically erased when the recording of that event is finished. Settings for everyday and every week (Event 9) will not be erased, of course. If you want to skip the timer recording preset for everyday or every week temporarily, press the TIMER REC button so that the lamp goes off. To reactivate the timer standby mode of that event, press the TIMER REC button again.

If you want to erase the memory of an event:
1. Press the TIMER SET button and then the + or – button to display the event to be erased.
2. Press the CLEAR button. This event will be erased from the memory.
3. To display a present time, turn the unit off.

ADVANCED OPERATION

TO OBTAIN VARIABLE SPEED PLAY-BACK PICTURE

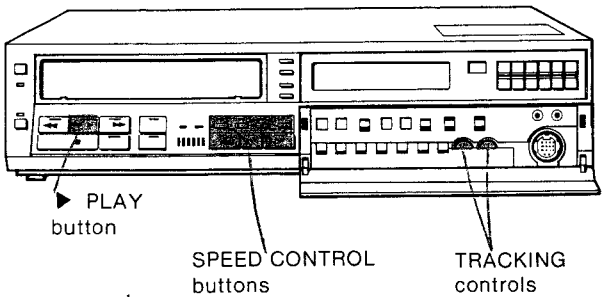
With this video cassette recorder, you can obtain still, frame-by-frame, slow motion, double speed or high speed playback picture in both forward and reverse direction (for double speed playback, forward direction only).

For example...

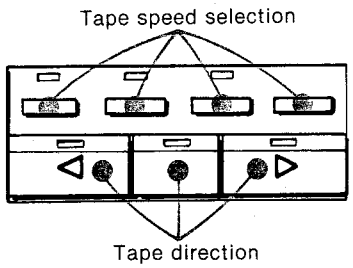
To closely inspect a particular frame→STILL PICTURE
To study your golf or tennis form→FRAME-BY-FRAME PICTURE
To watch a football play slowly unfold→SLOW-MOTION PICTURE
To quickly review a programme→DOUBLE SPEED PICTURE
To visually search for a particular point→PICTURE SEARCH

SPEED CONTROL

For still, frame-by-frame, slow motion and normal speed playback in both forward and reverse direction, use the "SPEED CONTROL" function buttons.



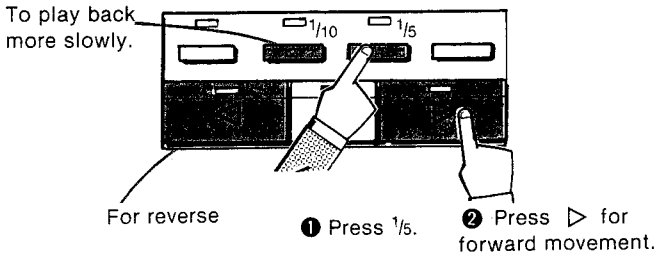
To enter the speed control mode, first press the ▶ PLAY button. Then select the playback speed and tape direction



Notes

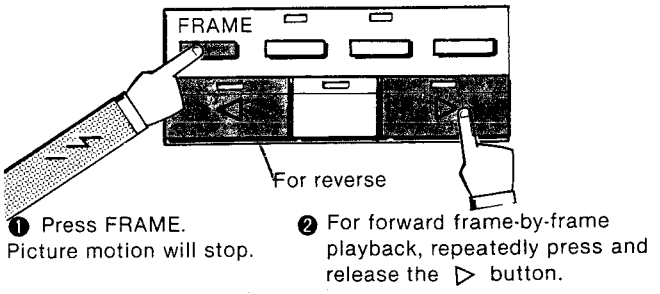
- The audio cannot be monitored in the speed control mode.
- To resume normal playback when the recorder is in the speed control mode, press the ▶ PLAY button.

Slow motion



- To stop the motion, press the STILL button.

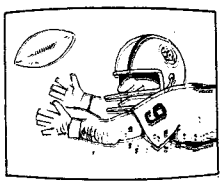
Frame-by-frame playback


FRAME
For reverse
❶ Press FRAME. Picture motion will stop.
❷ For forward frame-by-frame playback, repeatedly press and release the ▷ button.

- If you keep the ▷ or ◁ button depressed, the picture will advance continuously one frame every second.

Still picture

There are two ways to stop the motion of the picture.
1) Press the PAUSE button.
2) Press the FRAME and STILL buttons.

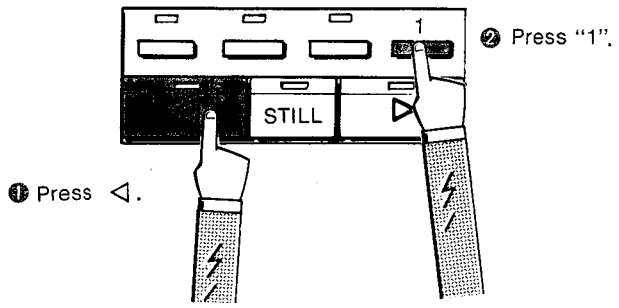


If a vertical jitter appears in the still, frame-by-frame or slow motion picture.

Obtain a still picture and adjust the TV VERT LOCK control at the rear of the recorder for the best possible picture. Then return the recorder to the previous mode.

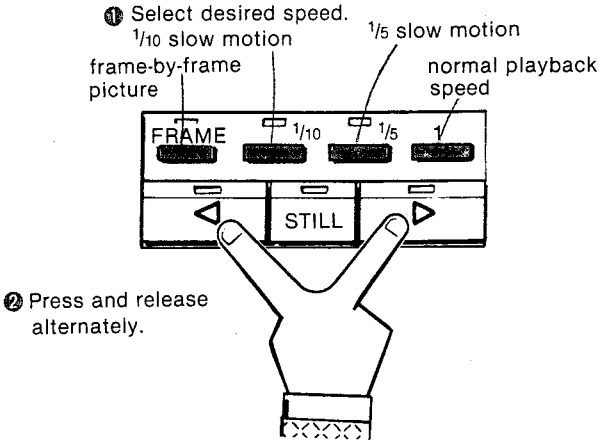
- Once you adjust this control, you do not have to adjust it again unless you change the connected TV receiver.

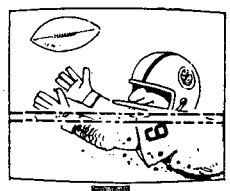
Reverse playback



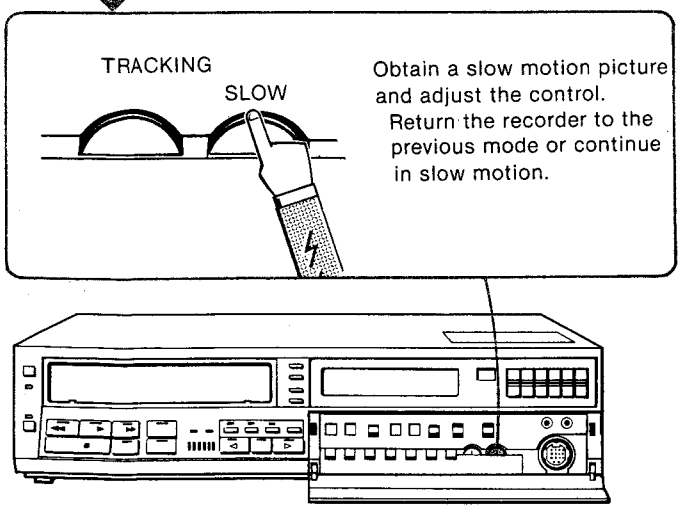
● For forward playback, press the ▷ button. The audio cannot be heard.

Back and forth playback

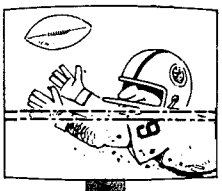




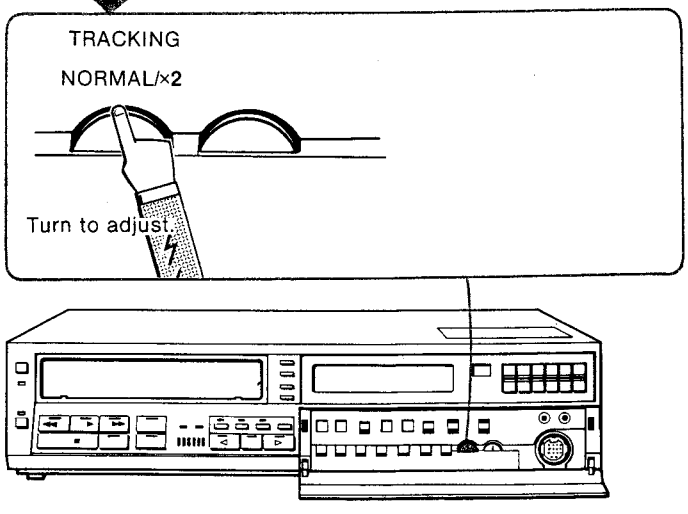
To remove the noise band in the still, frame-by-frame or slow motion picture.


TRACKING
SLOW
Obtain a slow motion picture and adjust the control.
Return the recorder to the previous mode or continue in slow motion.

● Return the control to its original (centre) position after playback.



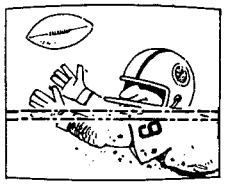
To remove the noise band in the reverse playback picture



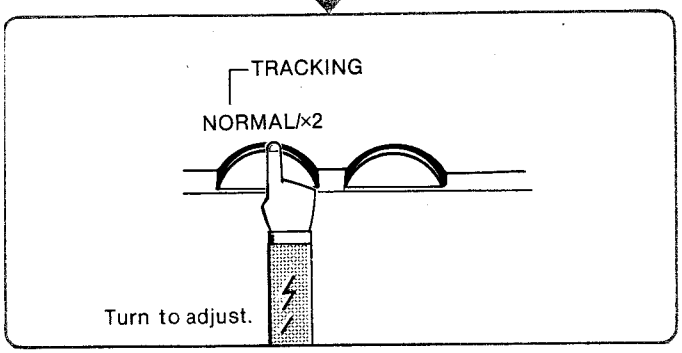
Return the control to its original (centre) position after the reverse normal speed viewing.

DOUBLE SPEED PLAYBACK

Press the ×2 button to view the picture at twice the normal speed. You can change the tape speed directly to slow motion or frame-by-frame advance or reverse the tape direction by selecting the tape speed with the FRAME, 1/10, 1/5 or 1 buttons and then by pressing the ▷ or ◁ button.



To remove the noise band in the double speed picture

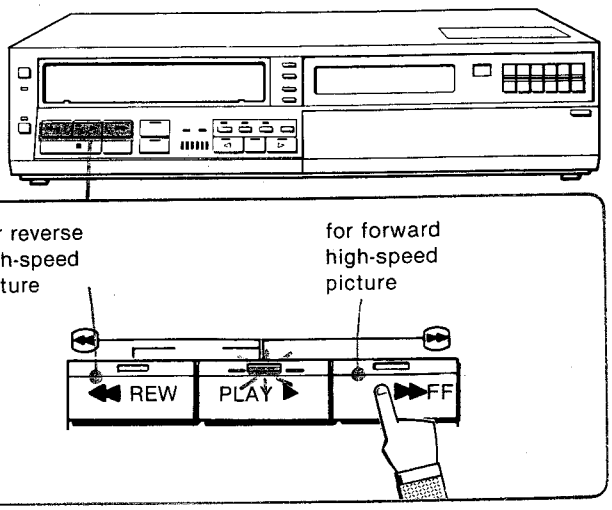


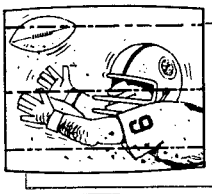
Return the control to its original (centre) position after the double speed viewing.

PICTURE SEARCH

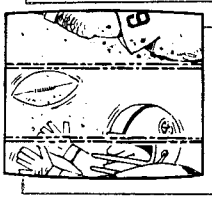
Press the ▶▶ FF or ◀◀ REW button during playback mode.
While the button is depressed, a high-speed picture in the forward or reverse direction is displayed.
Release the button for previous mode.

- Picture search mode can also be obtained directly from the frame-by-frame, slow-motion double speed or reverse playback mode.





Streaks will appear in the picture search mode.



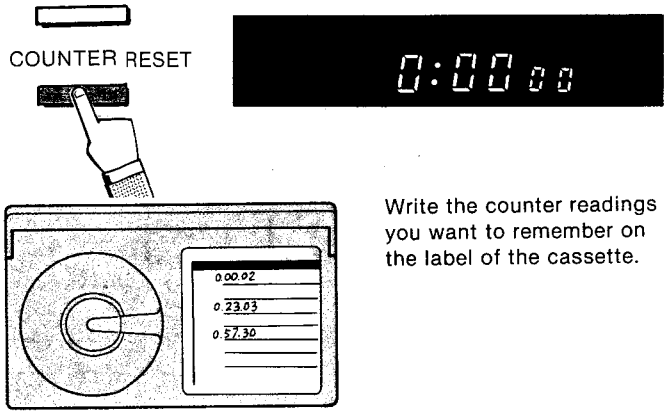
If the picture rolls vertically, adjust the vertical hold control on the TV.

- If you press and release the ▶▶ FF or ◀◀ REW button repeatedly in a short time, the protection circuit may be activated and the tape will stop.

TO LOCATE A PARTICULAR SCENE

TO REFERENCE A RECORDED PROGRAMME NUMERICALLY→ TIME COUNTER

When the COUNTER/TIMER button is pressed once, the display works as a time counter indicating how much the tape has advanced at normal speed in hours, minutes and seconds.
Press the COUNTER RESET button to set the counter to "0:00ᴏᴏ" before recording or playback. By noting the counter reading at a particular point, you can easily find that point later by referring to the time counter.
When the tape runs in reverse from "0:00ᴏᴏ", a minus sign "–" will be displayed to the left of the figures.
● To revert the display to the present time, press the COUNTER/TIMER button again.



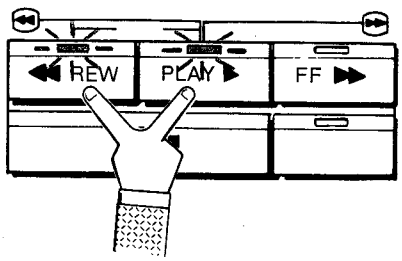
Write the counter readings you want to remember on the label of the cassette.

The counter reading is automatically reset to zero when the power is turned off
While the power is turned off, the display shows the present time, regardless of the COUNTER/TIMER selector.

The time counter does not operate with brand-new tapes except in the record mode
When an unrecorded tape is played back, advanced rapidly forward or rewound, the time counter does not operate.

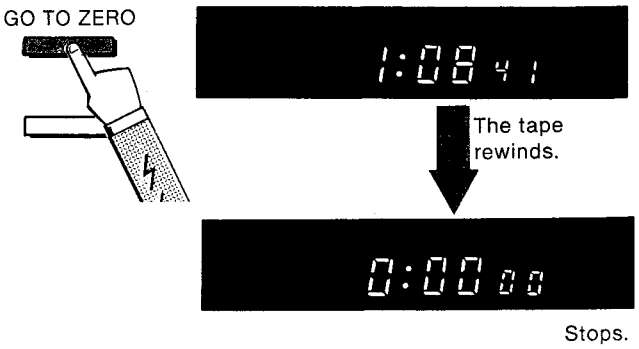
TO PLAY FROM THE BEGINNING OF THE TAPE AFTER REWINDING → AUTO PLAY

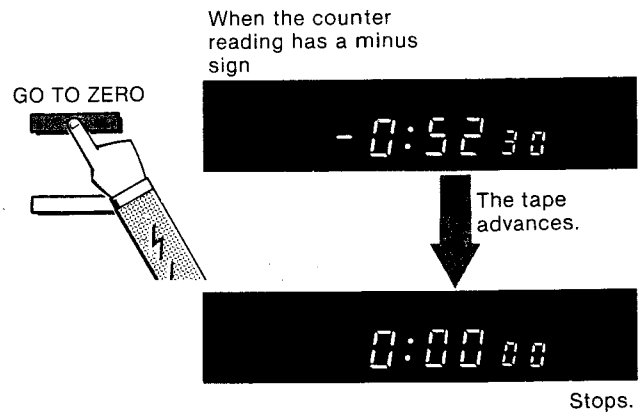
Press the ▶ PLAY button and ◀◀ REW button simultaneously while rewinding or in the stop mode. The PLAY and REW lamps blink alternately during rewinding.
After the tape is completely rewound, it will be automatically played back.



TO RETURN TO A PRE-REGISTERED POINT→GO TO ZERO

Press the COUNTER/TIMER button to display the time counter, then press the COUNTER RESET button at the point you later want to locate. When the recording or playback is finished, stop the tape by pressing the ■ STOP button, then press the GO TO ZERO button. The tape will rewind or advance to the point where the COUNTER RESET button was pressed.

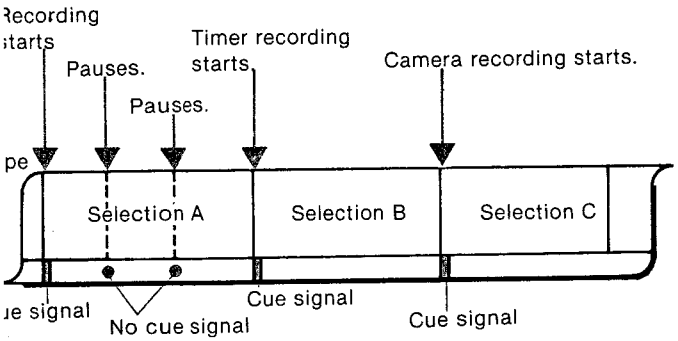




● The tape may stop several seconds before or after 0:00ᴏᴏ.
● Always display the time counter by pressing the COUNTER/TIMER button to activate the GO TO ZERO function.

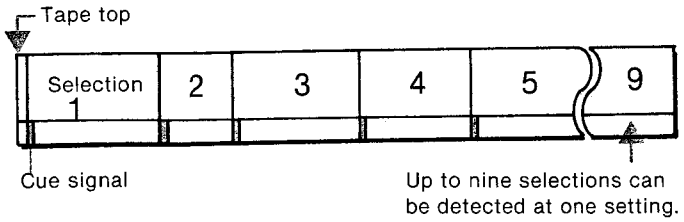
TO PLAY FROM THE START OF A DESIRED SELECTION→AUTO PROGRAMME SEARCH (APS)

The APS function operates by...
detecting the cue signals which are automatically recorded on the tape when the ● REC button is pressed or when timer recording begins.

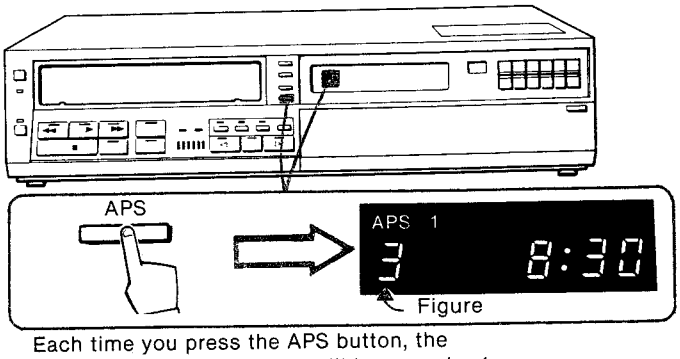


Notes
- Too short selection cannot be detected as one selection. There must be at least 30 seconds of tape at normal playback speed between cue signals.
- The APS function operates with any tape recorded on a machine with an APS function, such as the Sony SL-C7 series recorders.

How to actuate the mechanism
You number each selection on the tape from the beginning in sequence and find your desired selection by designating the number.



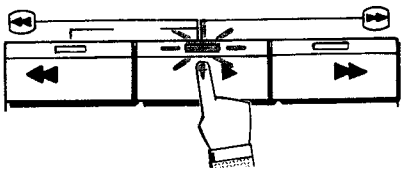
Operation
1. Stop the tape by pressing the ■ STOP button.
2. Press the APS button.
   "APS" appears on the left side of the time display.
   - If the number appears below the "APS" indication, that is the number of the present selection.
3. Press the APS button again.
   "0" appears below the "APS" indication. Press the APS button serveral times until the number of your desired selection appears.



Figure

Each time you press the APS button, the number in the time display will increase by 1, up to "9". If you press the button when "9" is displayed, "9" will disappear and the index function will not operate.

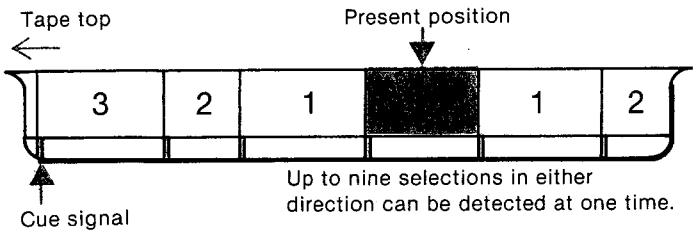
4. Press the PLAY button.



The recorder will search for the starting point of your desired selection in either of the rewind or fast forward mode. When located, playback of the programme will start automatically.

How can you know what the present selection number is?
When you rewind the tape to the tape top or proceed with the APS function, the present selection number will be displayed below the APS indication on the time display when the APS button is pressed once.
The recorder will hold the selection numbers until the cassette is removed, the power is turned off, or playback in slow motion is actuated.

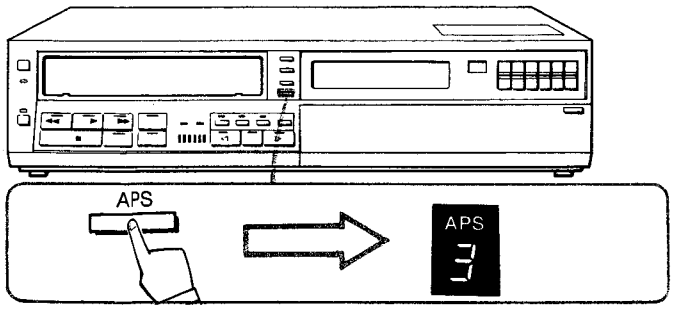
You can also search for a desired selection, which has been numbered in sequence, from the present position, by pressing the APS button.



Operation

1. Stop the tape by pressing the ■ STOP button.
2. Press the APS button.
   "APS" appears on the left side of the time display.
   ● If the number appears below the "APS" indication, that is the number of the present selection.
3. Press the APS button again.
   "0" appears below the "APS" indication. If you want to see from the top of the selection you were just watching, leave the figure at "0".
4. Press the APS button several times until the number of the selection you want to go back or forth to appear.

   For example, if you want to see the third selection ahead of one you were watching, press the APS button three times so that the figure "3" appears.



5. Press the ▶▶ FF button when locating a selection ahead, such as in case of above example. When locating a selection behind, press the ◀◀ REW button.

The recorder will search for the starting point of your desired selection in either the fast forward or rewind mode. When located, playback of the selection will start automatically.

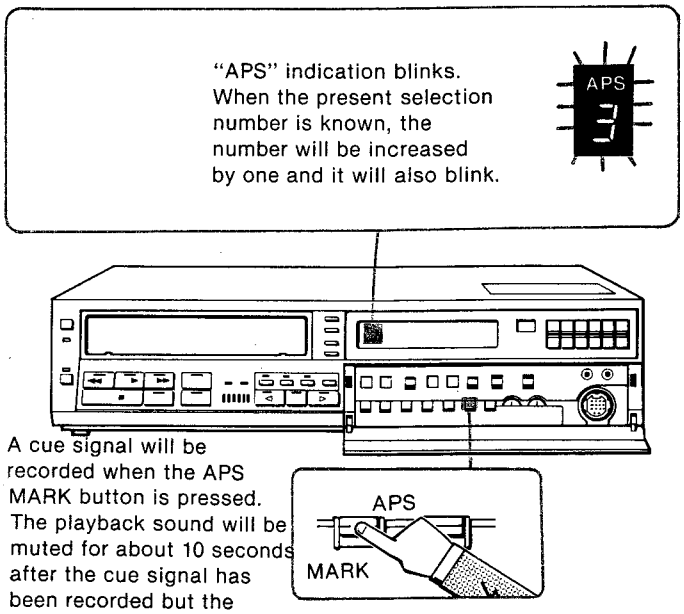
To insert a cue signal on a recorded tape

The cue signal is automatically recorded on the tape when the ● REC button is pressed or when timer recording begins. If two selections have been recorded without interruption, no cue signal will be recorded between the selections. Consequently, beginning of the second selection cannot be located. In this case, you can insert a cue signal.

Also during recording, you can insert a cue signal at any point on the tape so that you can easily find that point later.

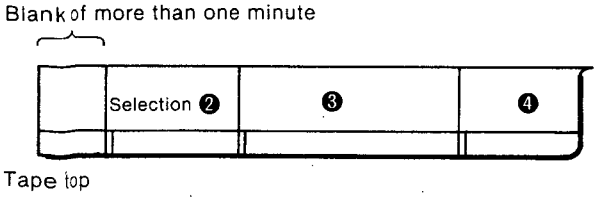
1. Play the tape back or start recording.
2. At the point where a cue signal is to be recorded, press the APS MARK button in the front compartment.

Note: Wait for more than 1 minute after one cue signal is inserted before recording the next cue signal.


"APS" indication blinks.
When the present selection number is known, the number will be increased by one and it will also blink.
APS
3
A cue signal will be recorded when the APS MARK button is pressed.
The playback sound will be muted for about 10 seconds after the cue signal has been recorded but the recording will not be affected.
APS
MARK

When the desired selection cannot be played back with the APS function, check the following:

● Is there a blank space of over one minute at the very beginning of the tape? If so, the first selection will be counted as selection number two.

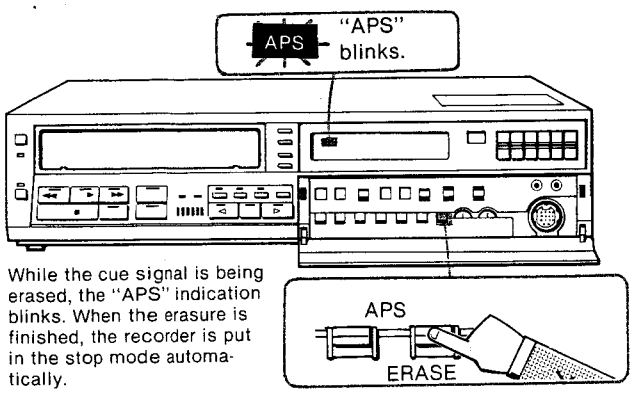


● Is there a selection of less than one minute? Such a selection may not be counted as one selection.

● Have you performed the APS operation within one minute before or after a cue signal? In this case, the first cue signal to be detected may not be counted.

To erase a cue signal

1. Stop the tape by pressing the ■ STOP button.
2. Proceed with the APS operation to search for the cue signal you want to erase.
   When the tape reaches the point where the cue signal you want to erase is located, playback will begin.
3. .Press (within about 20 seconds) the APS ERASE button behind the front compartment while the APS indication and the selection number are displayed on the left side of the time display.



While the cue signal is being erased, the "APS" indication blinks. When the erasure is finished, the recorder is put in the stop mode automatically.

● The cue signal will not be erased if you press the APS ERASE button after the APS indication on the time display disappears.

HOW TO RECORD WITH SMOOTHER TRANSITIONS BETWEEN SCENES

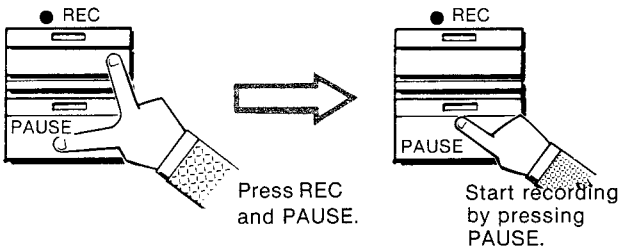
For a smooth transition between scenes, always start recording when the recorder is in the recording pause mode. Even if you use the ■ STOP button to stop recording or if you turn off the recorder, picture transition will be smoother if you start recording after first setting the recorder to the recording pause mode.

When recording with a camera

The recorder will automatically enter the recording pause mode when the REC button is pressed so that the transition between scenes will be smooth.

When recording TV programmes

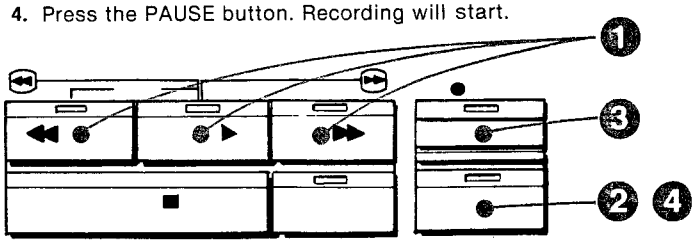
Press the PAUSE button then the REC button to set the recorder in the recording pause mode. When you want to start recording, press the PAUSE button again. Recording will start and the picture transition will be smooth.



TO START RECORDING FROM A PARTICULAR POINT

You can start recording from any desired point by searching for that point using the picture search (→page 17) and speed control (→page 15) functions.

1. Search for the point where you wish to start recording on the tape using the picture search function.
2. Stop the tape at the point where you wish to start recording the next scene by pressing the STILL button. You will find it convenient to search for the point precisely using the slow motion playback.
3. Press the REC button. The recorder will enter the record pause mode.
4. Press the PAUSE button. Recording will start.



Why is picture transition smoother when recording is started from the recording pause mode?

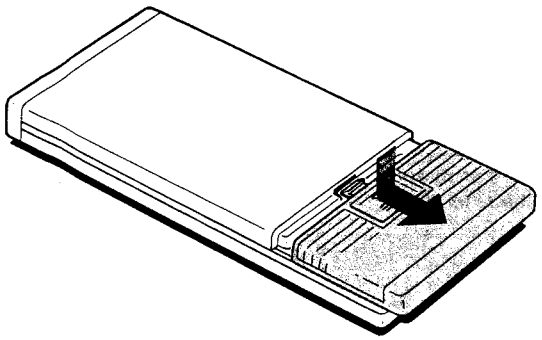
When the recorder enters the recording pause mode, the tape will be automatically rewound for about 0.5 second, then stop. When the pause mode is released to start recording, the tape runs in the playback mode to synchronize the segment to be recorded next with the last segment recorded. When the tape reaches the point where the recorder entered the recording pause mode, recording starts.

REMOTE CONTROL OPERATION

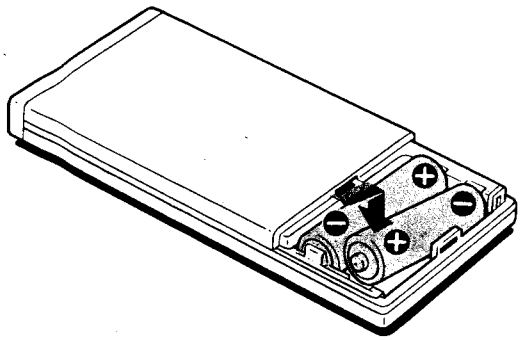
You can control almost all the functions of the SL-C9E video cassette recorder from your armchair using the supplied remote control unit.

BATTERY INSERTION

1. Open the lid.



2. Insert two size AA batteries (IEC designation R6) with correct polarity.



3. Close the lid firmly.

Notes on the remote control unit

- Avoid dropping foreign objects into the cabinet, particularly when replacing batteries.
- Keep the unit away from extremely hot or humid places.
- Avoid mechanical shock to the unit.
- This remote control unit may be used only with the SL-C9E video cassette recorder.

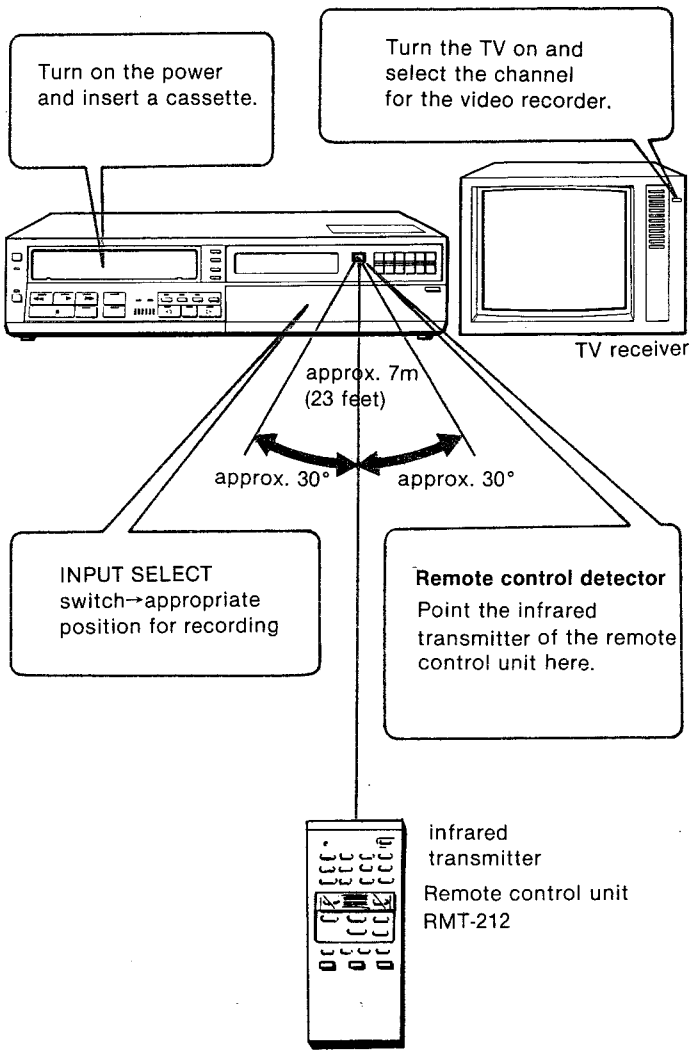
Battery life

In normal operation, batteries will last for about six months. If the range of the remote control unit becomes noticeably short, replace the batteries with new ones. When the batteries are exhausted, the remote function indicator will not light when the buttons on the control unit are pressed.

If the remote control unit is not to be used for a long period of time, remove the batteries to avoid possible damage from battery leakage.

HOW TO USE THE REMOTE CONTROL UNIT

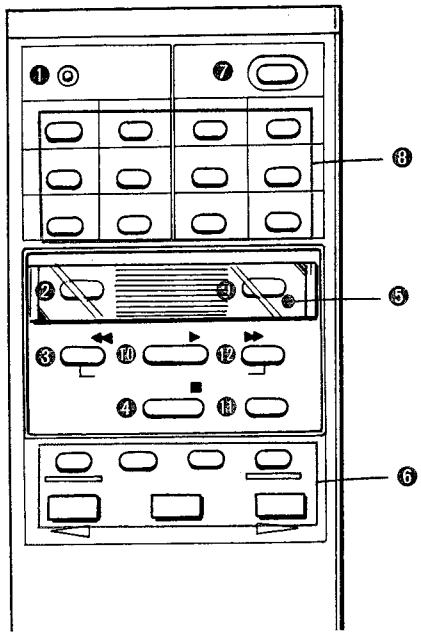
Preparation


Turn on the power and insert a cassette.
Turn the TV on and select the channel for the video recorder.
TV receiver
approx. 7m (23 feet)
approx. 30°
approx. 30°
INPUT SELECT switch→appropriate position for recording
Remote control detector
Point the infrared transmitter of the remote control unit here.
infrared transmitter
Remote control unit RMT-212

Notes

- There should be no obstacles between the remote control unit and the remote control detector of the recorder.
- The shorter the distance between the remote control unit and the recorder, the wider the angle within which the recorder can be controlled.

Function of the buttons
The buttons on the remote control unit perform the same function as the corresponding buttons on the video recorder.



❶ Remote function indicator
Lights up when any of the buttons on the remote control unit are pressed.

❷ PAUSE button
Press to stop the tape momentarily. To resume the previous mode, press it again.

❸ REW ◀◀ button
Press to rewind the tape. Used also for reverse picture search operation during playback.

❹ ■STOP button
Press to stop the tape.

❺ Sliding cover
During playback, slide this cover over the record button to prevent accidental recording. During recording, slide this cover down to prevent accidental interruption of recording.

❻ SPEED CONTROL buttons
During playback or double speed playback, first select the playback speed with the FRAME, 1/10, 1/5 or 1 button, then select the playback direction with the ▷ or ◁ button.
● For frame-by-frame playback, press and release the ▷ or ◁ button repeatedly. Keep the button depressed for continuous frame-by-frame playback.

❼ ON button
Press to turn the power on. To turn it off, press again.

❽ Programme select buttons
Press to select a programme to be viewed or to be recorded.

❾ REC ● button
Press to start recording.

❿ PLAY ▶ button
Press to play the tape back.

⓫ ×2 button
Press to obtain a double speed playback picture.

⓬ ▶▶ FF button
Press to adavance the tape rapidly. Used also forward picture search operation during playback.

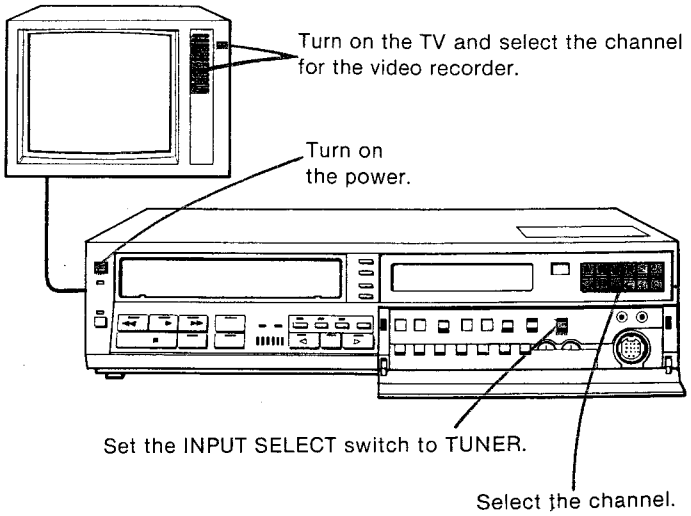
OPERATION

Recording
1. Select the channel to be recorded with the programme select buttons.
2. Press the REC button. The recording will begin.
To stop recording, press the STOP button.

Playback
Press the PLAY ▶ button. Playback will begin.
To stop playback, press the ■ STOP button.

WATCHING TELEVISION

You can watch television in the usual way when recorder is turned off. You will find it convenient to use the recorder to remotely control TV channel selection.

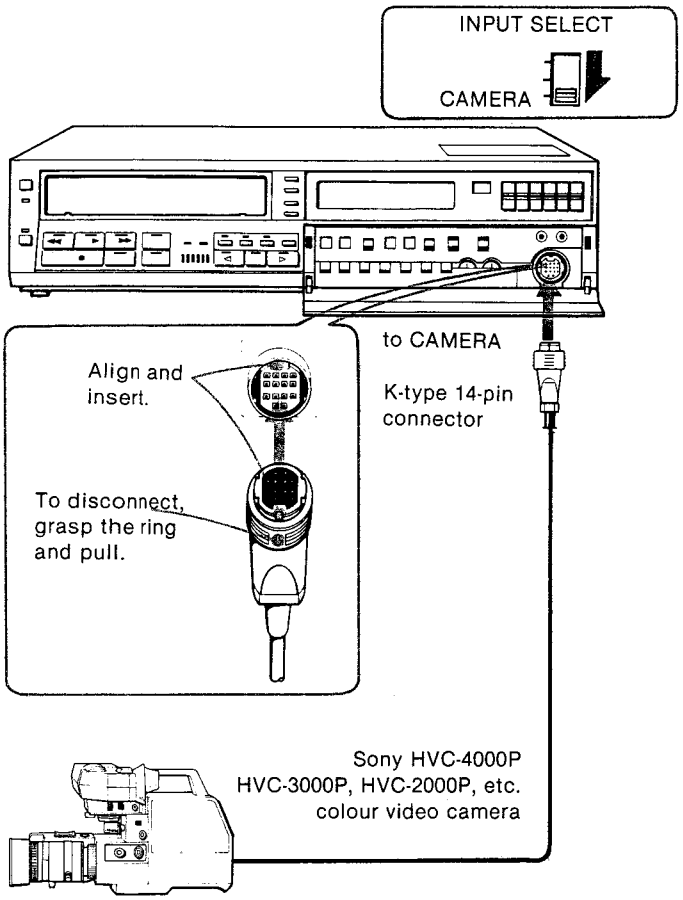

Turn on the TV and select the channel for the video recorder.
Turn on the power.
Set the INPUT SELECT switch to TUNER.
Select the channel.

Channel selection is even easier when you use the supplied remote control unit.

CAMERA RECORDING...To produce your own programmes

CONNECTIONS

● The camera must conform to CCIR PAL TV standards.



● When using a HVC-2000 or HVC-3000 series video camera, the sound from the microphone built into the camera is recorded on the channel 1. To monitor the sound from the built-in microphone, be sure to set the AUDIO PB/MONITOR switch to CH-1/L.

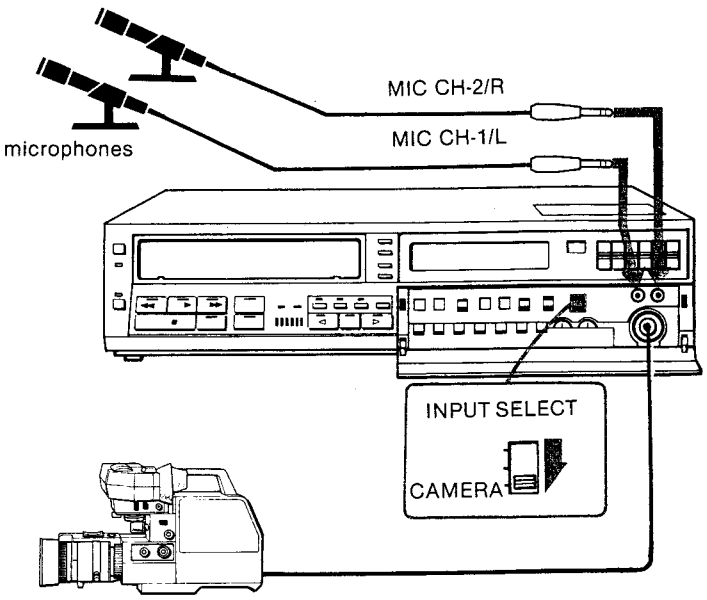
To connect a camera which is not equipped with a K-type 14-pin connector

Use an ac adaptor. Connect the video output of the ac adaptor to the VIDEO IN jack of the recorder and the audio output of the ac adaptor to the AUDIO IN CH-1/L jack or the MIC CH-1/L jack of the recorder depending on the audio output level of the ac adaptor.
Set the INPUT SELECT switch to LINE/PCM.

Note

If you want to use a camera not recommended in this manual, make sure that the power requirement of the camera is DC 12V and power consumption is under 10W. Otherwise, the video cassette recorder will be damaged.

To record the sound from external microphones



● If the microphone has a phone plug, use a plug adaptor such as the Sony PC-1A (optional).

OPERATING PROCEDURE

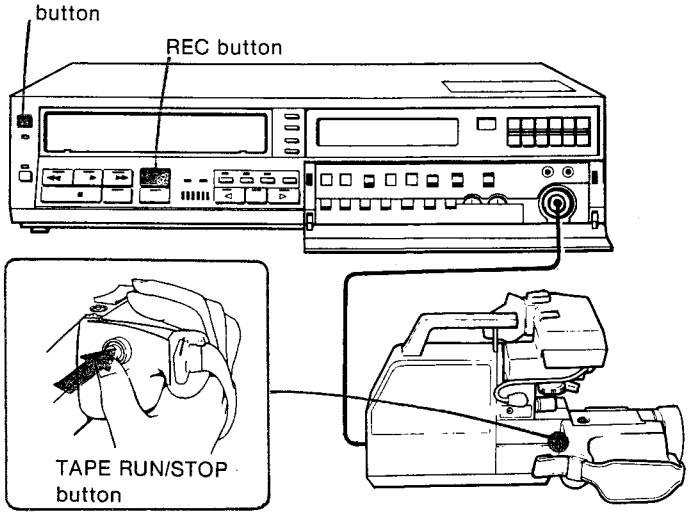
1. Turn on the recorder and insert a cassette.
   ● "CA" appears on the right of the time display indicating that the INPUT SELECT switch is properly set to the CAMERA position. If the "CA" indication does not appear, set the INPUT SELECT switch to CAMERA.
2. Make necessary adjustment on the camera. For details, refer to the camera's instruction manual.
3. Press the REC button. The recorder will be set into the recording pause mode.
4. Press the TAPE RUN/STOP button on the camera. Recording will begin.

To momentarily stop recording, press the TAPE RUN/STOP button on the camera or the PAUSE button on the recorder. To restart the recording, press the same button again.

● The pause mode will be automatically released after about 8 minutes and the recorder will revert to the record mode.

To stop recording, press the STOP button.

When the tape reaches the end, the tape will be rewound.



NOTE
Do not change the INPUT SELECT switch during recording or playback when using a Sony HVC-series video camera. If you do, the recorder will be set into the pause mode. To release the pause mode, turn the power off and turn it on again.

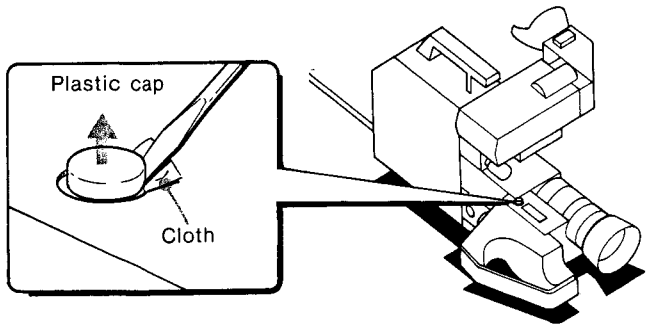
TO MONITOR THE PICTURE BEING RECORDED WITH A CAMERA

Turn on the TV and select the channel for the video recorder.

RECORDING REVIEW

When a camera having a recording review function* is used
Press the recording review button in the recording pause mode. The last few seconds of recorded scene will be played back immediately so that you can check whether the recording has been made correctly. The recorder will then enter the recording pause mode at the point where the recording review button was pressed. To continue recording, press the tape run/stop button on the camera.

***For customers who have a HVC-3000P or HVC-2000P camera**
There are two types in the HVC-3000P and HVC-2000P cameras: the one which has a recording review button and the one which does not.
The small projection located near the zoom button is a recording review button. If this button is covered with a plastic cap, carefully peel off the cover over the button with a screwdriver or similar object.



Caution:
Make sure that the plastic cap has not already been removed and inadvertently attempt to pry up the button itself.

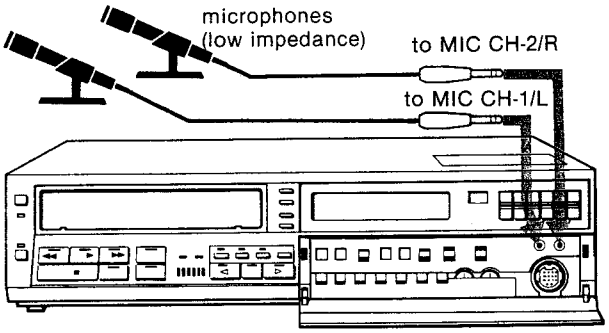
DUBBING AUDIO

You can dub in music or commentary on any recorded tape while watching the recorded video.
Audio is recorded on two channels on the tape: channel 1 and channel 2.
You can replace the sound of all these two channels or the audio channel 2.

- Audio dubbing cannot be done on a blank tape.

CONNECTIONS

To record microphone sound

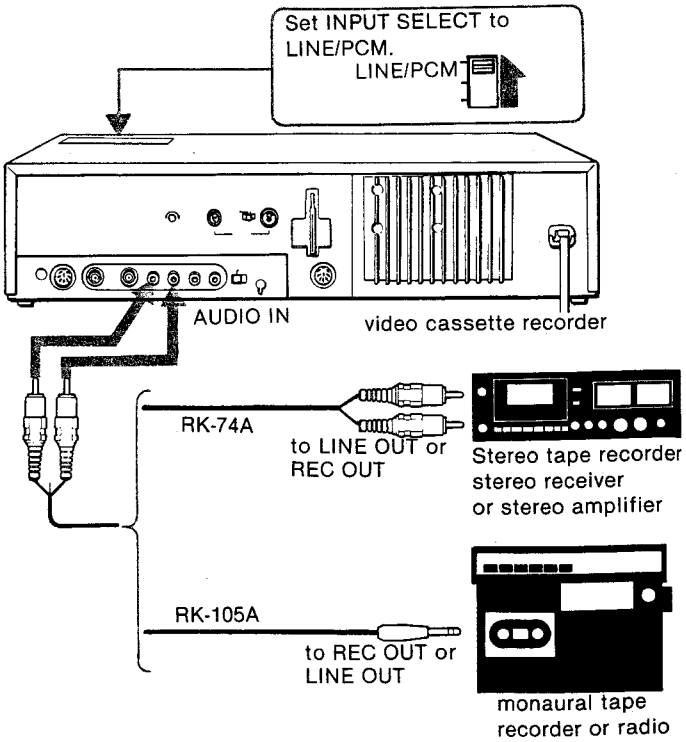


video cassette recorder

If your microphone has a phone plug, use the PC-1A plug adaptor (optional).

The microphone sound will be recorded regardless of the INPUT SELECT switch position.

To record from an audio equipment



HOW TO DUB

First, decide at which point on the tape you will start audio dubbing and make the necessary preparations for playing the audio source.

1. Turn the power of the recorder on and insert a cassette. Be sure that the cassette's safety tab has not been removed.

● When using source other than microphones make sure that "AU" appears on the time display indicating that the INPUT SELECT switch is set to LINE/PCM.

2. Press the ▶ PLAY button. Playback will begin.
3. Press the PAUSE button at the point where audio dubbing is to start.
4. Press the AUDIO DUB button.
   If you want to erase the previously recorded sound and completely replace, press the CH-1,2/L,R button.
   If you want to replace the sound of the audio channel 2 with new one, press the CH-2/R button.

The corresponding AUDIO DUB lamp(s) will light.

5. Press the PAUSE button again.

Audio dubbing starts.

6. Start playing the audio source—talking into the microphone, playing the tape recorder, etc.

To stop the tape momentarily during dubbing, press the PAUSE button.

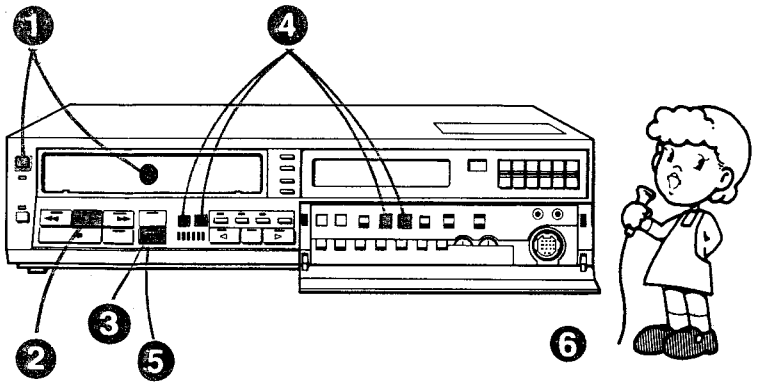
To stop dubbing, press the ■ STOP button.

If a whistle-like sound is heard during microphone recording

Stop pointing the microphone in the direction of the TV or turn the TV volume down.

To record from the beginning of the tape

Press the AUDIO DUB button. Audio recording and picture playback will start immediately.



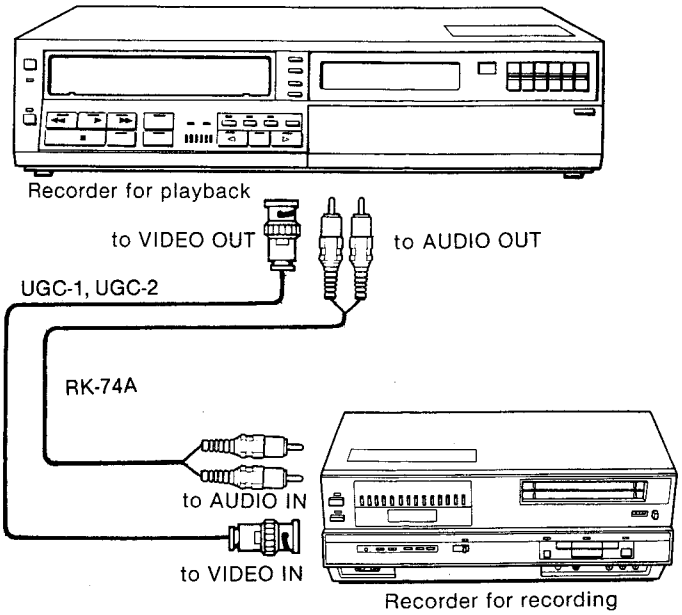
Note on the STEREO indicator

When playing back a tape recorded in stereo with this recorder, the STEREO indicator will not light, but the reproduced sound will be stereo.

TAPE COPY

To duplicate a tape, you will need two video recorders; one is to play back the original tape and the other is to record.

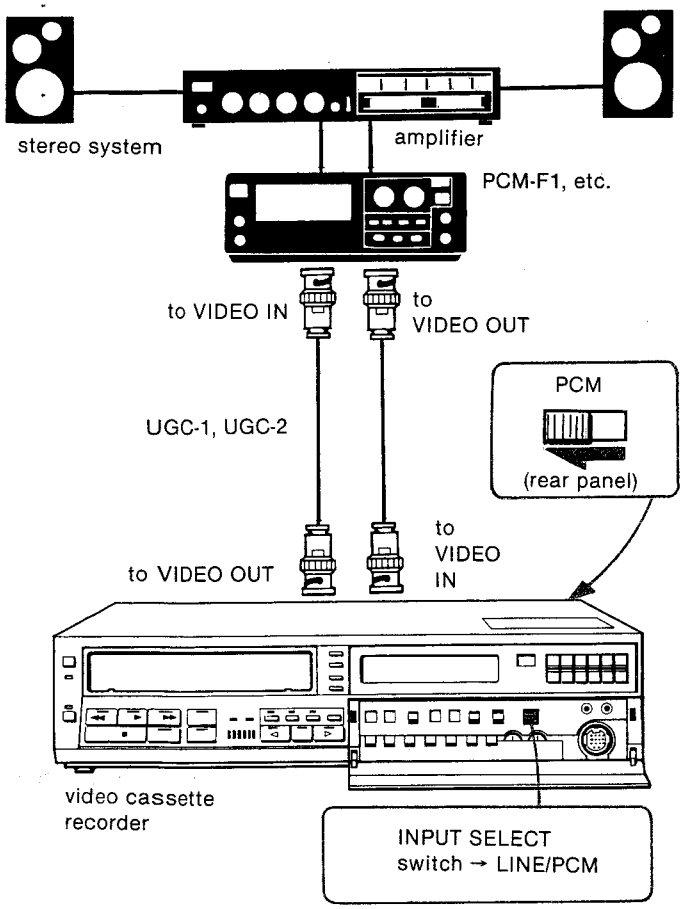
1. Connect the recorders as illustrated.
2. Turn on both recorders.
3. Insert the original cassette into the recoder for playback.
4. Insert a blank cassette into the recorder for recording.
5. Set the INPUT SELECT switch of the recorder for recording to LINE/PCM.
6. Set the recorder for playback into the playback mode.
7. Set the recorder for recording into the record mode.



GENERAL

PCM RECORDING AND PLAYBACK

By connecting a PCM digital audio processor (Sony PCM-F1, etc.) you can enjoy hi-fi sound reproduction with a wide dynamic range, minimal distortion and a flat frequency response.



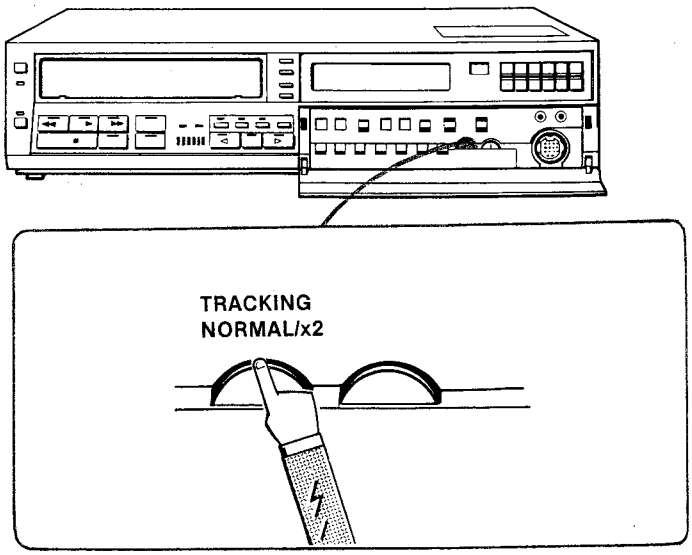
- For optimum results, use a video cassette with a model number L-500 or less (L-250, L-125, etc.).
- For details, refer to the instruction manual furnished with the digital audio processor.

HOW IS THE PICTURE ON THE SCREEN?

Noisy picture ...

The video heads may become contaminated.
Clean the video heads with the L-25CL video head cleaning cassette (optional). For details about cleaning, refer to the instructions frunished with the cleaning cassette.
If the L-25CL cleaning cassette is not available in your area, have the heads cleaned at the nearest Sony service facility.

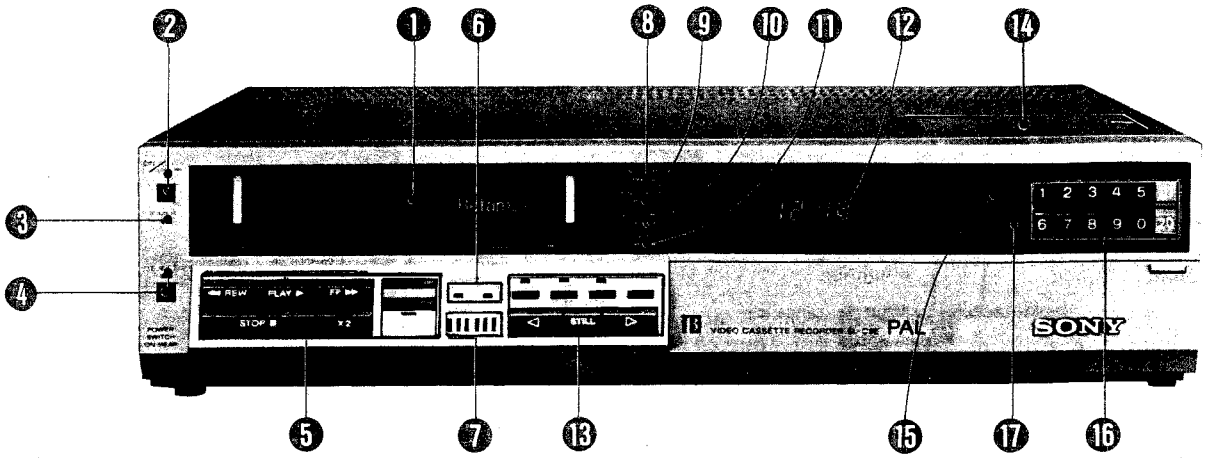
Streaks or snow appears ...



Has the tape been recorded on another video cassette recorder?
If so, open the front compartment and adjust the NORMAL/×2 TRACKING control for the best possible picture.
Return the control to the centre position after viewing a tape recorded on another machine.

LOCATION AND FUNCTION OF CONTROLS

Front panel



❶ Cassette compartment
Insert a cassette to be recorded or played back after turning on the recorder.

❷ ON/STANDBY button and lamp
Press to turn on the unit after depressing the POWER switch to ON. The lamp will light up. Press again so that the recorder is in the standby mode and the lamp goes off.
The timer section will continue to operate and the time will be displayed even if the ON/STANDBY button is off so long as the POWER switch is depressed to ON.

❸ TIMER lamp
This lamp lights up when the TIMER REC button is pressed to activate the timer recording standby mode.

❹ EJECT button and lamp
Press to remove the cassette.
This button does not function when the recorder is turned off.

❺ Function buttons

▶ PLAY button:	Press to play the tape back.
◀◀ REW button:	Press to rewind the tape. Also used for the reverse picture search operation.
▶▶ FF button:	Press to advance the tape rapidly. Also used for the forward picture search operation.
■ STOP button:	Press to stop the tape.
×2 button:	Press to obtain a double-speed playback picture.
● REC button:	Press to start recording.
❙❙ PAUSE button:	Press to stop the tape for a moment during recording or playback. A still picture will be seen during playback. Press again to release the pause mode.

❻ AUDIO DUB CH-1/L and CH-2/R lamps
These lamps light up when the AUDIO DUB buttons behind the front panel is pressed.

❼ TAPE REMAINING indicator
This shows the amount of tape remaining.

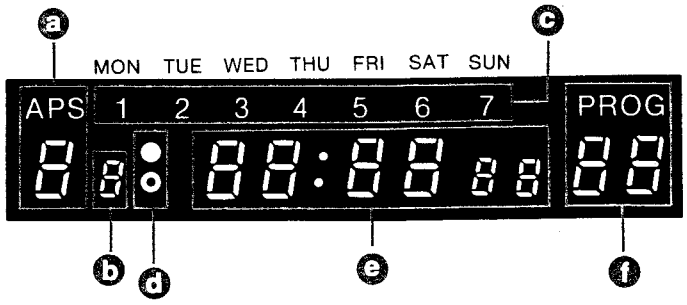
❽ COUNTER/TIMER select button
This is used to select either clock or time counter display.
Press the button to set the display to time counter. Press it again to reset to clock.

❾ COUNTER RESET button
Press to set the time counter reading to "0:00ₒₒ".

❿ GO TO ZERO button
Press this button in the stop mode to return the tape to the "0:00ₒₒ" point on the time counter.
● To activate the GO TO ZERO function, press the COUNTER/TIMER button to set the display to time counter.

⓫ APS button
Press to activate the Automatic Programme Search function and to set the number of the recorded programme you want to view. The selected number will be displayed on the time display.
If it is known, the present selection number will appear when this button is pressed once.

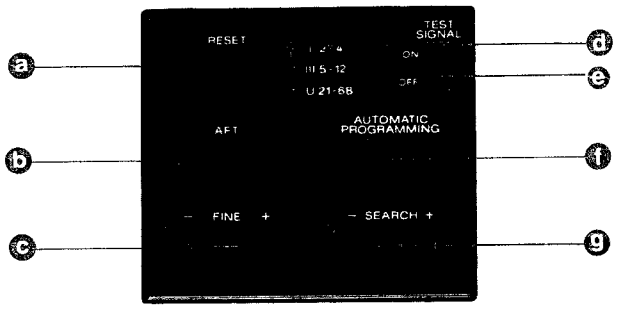
⓬ Time display
This indicates the present time. When the COUNTER/TIMER button is pressed when the recorder is on, the display shows the tape running time at the normal playback speed. To revert to the time display, press the button again. The display always shows the present time when the recorder is turned off.
Timer programmes, programme number and APS number are shown here.



ⓐ APS indication and number: The "APS" indication appears when the APS button is pressed. The number shows the present APS number or the number selected with the APS button.
ⓑ Event number
ⓒ Day of week indications: Show the day of the week or days the timer-activated recording will take place.The boxed numbers show the second week.
ⓓ Turn-on and turn-off setting indications: The "●" mark shows you are setting the turn-on time and the "O" mark shows the turn-off time.
ⓔ Time and counter display: Shows the clock time. When the COUNTER/TIMER button is pressed to COUNTER, the display shows the counter number.
ⓕ Programme number: Shows the programme number selected with the programme select buttons.

⑱ SPEED CONTROL buttons
FRAME, 1/10, 1/5 and 1 buttons: Select the speed of the speed control playback.
▷ and ◁ buttons: Select the direction of the speed control playback: ▷ for forward, ◁ for reverse direction.
STILL button: Press to momentarily stop the tape motion.

⑫ Tuning compartment
All the switches and buttons for presetting stations are in this compartment.



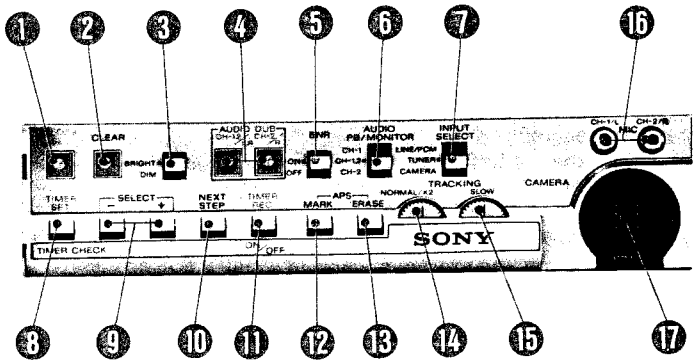
ⓐ RESET button: To clear the preset station, press this button.
ⓑ AFT button and ON lamp: After the station presetting is finished, the ON lamp lights.
This button is automatically set to OFF (and the lamp goes off) when the FINE buttons are pressed.
ⓒ FINE + and – buttons: Press to fine tune the station.
ⓓ Tuning indicator: Indicates the approximate position of the tuned station within the tuning band scanned.
ⓔ TEST SIGNAL switch: Set to ON to obtain a test pattern.
ⓕ AUTOMATIC PROGRAMMING button and lamp: To preset the receivable stations automatically, press this button. The corresponding lamp blinks during automatic and manual programming.
ⓖ SEARCH + and – buttons: Press to tune in a station. Press the – button to get a station of lower frequency and the + button to get a station of higher frequency.

⑮ Remote control detector
Point the infrared transmitter of the supplied remote control unit here.

⑯ Programme select buttons
Select the number of the programme to be recorded or to be viewed. The selected programme number will appear on the display window.

⑰ STEREO lamp
Lights up when a tape recorded in stereo is played back.

Behind the front panel



① CLOCK SET button
Press to set the clock.

② CLEAR button
Press to clear the timer programme memorized.

③ BRIGHT/DIM switch
Select the brightness of the time display.

④ AUDIO DUB buttons
Press to record new audio on a tape on which the video programme has been previously recorded. Press the CH-1,2/L,R button to replace all the previously recorded sound.
Press the CH-2/R button to replace the audio of channel 2 with new sound.

⑤ BNR (Beta Noise Reduction) switch
In recording: The sound is recorded with the BNR system on regardless of the position of this switch.
In playback: For a tape recorded on the SL-C9E or on any other recorder with the BNR system on, set the BNR switch to ON. For a tape recorded on another recorder which does not have a BNR switch, set the switch to OFF.

⑥ AUDIO PB/MONITOR switch
Select the sound of the audio channel 1 and 2 when playing back the tape recorded in stereo or bilingual.
For details, see page 11.

⑦ INPUT SELECT switch
Select the programme to be recorded
LINE/PCM: for recording signals connected to the VIDEO IN and AUDIO IN jacks.
TUNER: for recording TV programmes
CAMERA: for recording camera signals connected to the CAMERA connector.

⑧ TIMER SET/TIMER CHECK button
Press to set the timer for recording.
To check the contents of a timer programme, press this button.

⑨ SELECT + and – buttons
Used to set the clock time, the day of the week and timer programmes.

⑩ NEXT STEP button
Used for memorizing the clock time, the day of the week and timer programmes set by the SELECT buttons.

⑪ TIMER REC button
Press to activate the timer recording standby mode. The TIMER lamp will light up.

⑫ APS MARK button
Press to record a cue signal at the desired point on the tape for the APS operation.

⓭ APS ERASE button
Press to erase the cue signal recorded on the tape.

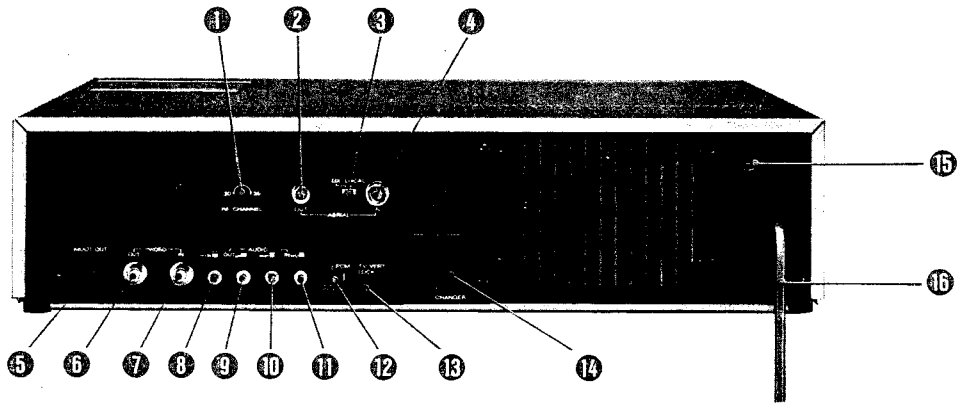
⓬ TRACKING NORMAL/x2 control
Turn to eliminate the streaks or snow in a double speed playback picture or for playback of a cassette recorded on another video cassette recorder.
● Return the control to its centre position after viewing the particular cassette.

⓫ TRACKING SLOW control
Turn to eliminate the streaks or snow in a still, a frame-by-frame or slow motion playback.
● Return the control to its centre position after playback.

⓰ MIC jacks
Connect low impedance microphones. The microphone connected to the CH-1/L jack is recorded on channel 1, and the microphone on the CH-2/R jack is recorded on channel 2.

⓱ CAMERA connector (14-pin, K-type)
Connect a video camera, such as a HVC-4000P.

Rear panel



❶ RF CHANNEL screw
If there is interference on the factory preset channel for RF output and the signal of this recorder unit cannot be displayed clearly on the TV screen, adjust this screw with the supplied screwdriver.

❷ AERIAL OUT socket
Connect the aerial input of the TV receiver using the supplied cable.

❸ DX/LOCAL switch
Normally set this switch to DX. If the TV signal is very strong, set the switch to LOCAL.

❹ AERIAL IN socket
Connect the aerial cable.

❺ MULTI OUT connector (8-pin)
Connect the multi input of a colour monitor, such as the Sony KX-20PS1, or a TV receiver such as the Sony KV-2212ES, with VMC-288 video monitor cable (optional).

❻ VIDEO OUT jack (BNC type)
Connect to the video input of another video cassette recorder or of a video monitor.

❼ VIDEO IN jack (BNC type)
Connect to the video output of a camera, another video cassette recorder, etc.

❽ AUDIO OUT CH-2/R jack (phono type)
Connect to the right input jack of an audio system, a video monitor or a video cassette recorder.

❾ AUDIO OUT CH-1/L jack (phono type)
Connect to the left input jack of an audio system, a video monitor or a video cassette recorder.

❿ AUDIO IN CH-2/R jack (phono type)
Connect to the right output jack of a cassette recorder or an audio amplifier, or to the audio output of a camera or another video cassette recorder.

⓫ AUDIO IN CH-1/L jack (phono type)
Connect to the left output jack of a cassette recorder or an audio amplifier, or to the audio output of a camera or another video cassette recorder.

⓬ PCM switch
Normally set to the right position. For PCM recording and playback using a PCM adaptor, set this switch to the left position.

⓭ TV VERT LOCK (TV vertical lock) control
If a jitter appears in the still, frame-by-frame or slow motion picture, first obtain a still picture and turn this control until the picture is stable.

⓮ CHANGER connector
Used to connect an auto cassette changer which will be available in the near future.

⓯ POWER switch
This is the mains power on/off switch. Keep this button depressed so the timer section will stay active even after the ON/STANDBY button is off. When this switch is released (OFF), the present time and timer settings are all cleared.

⓰ AC mains lead

SPECIFICATIONS

System

Video recording system	Rotary two-head helical scanning
Video signal	CCIR standards, PAL colour
Aerial input	75-ohm, asymmetrical aerial socket
Channel coverage	VHF: Western European channels E2—12 UHF: Western European channels E21—68 (Up to 30 stations can be preset.)
RF output signal	UHF channels E30 to E39 (variable) 75 ohms, unbalanced

Video

Input	VIDEO IN: BNC connector 1 V p-p $^{+1.0}_{-0.5}$ V p-p 75 ohms unbalanced, sync negative
Output	VIDEO OUT: BNC connector 1.0 V (p-p) ±0.1 V (p-p) 75 ohms unbalanced, sync negative
Horizontal resolution	Colour: 260 lines B/W: 300 lines
Signal-to-noise ratio	Colour: Better than 40 dB B/W: Better than 43 dB

Audio

Input	AUDIO IN: phono jacks 47 kilohms, −10 dBs (0 dBs = 0.775 V rms) MIC: mini jacks −60 dBs, suitable for microphones with 600 ohm impedance
Output	AUDIO OUT: phono jacks Load impedance less than 10 kilohms −5 dBs with 47 kilohms load unbalanced
Frequency response	50 Hz to 10 kHz
Signal-to-noise ratio	Better than 43 dB (BNR ON)
Audio distortion	Less than 4% at 400 Hz

Tape transport

Tape speed	18.73 mm/sec.
Maximum recording time	2 hours 10 min. (with Sony L-500 cassette) 3 hours 15 min. (with L-750)
Fast forward/rewind time	Within 3 1/2 min. (with L-500)

Timer

Clock	Crystal lock
Time indication	24-hour cycle
Timer setting	Only for recording 9 events within 14 days can be set.
Power back-up	Incorporated self-charging battery Back-up duration: up to 5 minutes at one time (after the battery has been charged at least 30 hours).

Remote control unit

Remote control system	Infrared control
Power requirements	3V dc, 2 size AA batteries (IEC designation R6)
Dimensions	Approx. 65 × 150 × 18 mm (w/h/d) (2 5/8 × 6 × 3/4 inches) incl. projecting parts and controls
Weight	Approx. 140 g (5 oz) incl. batteries

General

Power requirements	110–240 V ac ±10%, 50/60 Hz
Power consumption	35 W
Storage temperature	−20°C to +65°C (−4°F to +149°F)
Operating temperature	5°C to 40°C (41°F to 104°F)
Dimensions	Approx. 430 × 105 × 362 mm (w/h/d) (17 × 4 1/4 × 14 3/8 inches) including projecting parts and controls
Weight	Approx. 10 kg (22 lbs 1 oz) net

Accessories supplied

75-ohm coaxial cable for recorder to TV connection 1
Remote control unit RMT-212 with two size AA batteries 1
RF channel adjustment tool 1

Design and specifications subject to change without notice.

TROUBLE CHECKS

If any diffculty should arise during operation, check through this list of symptoms and possible causes. Should the difficulty persist, unplug the unit and contact the dealer from whom this unit was purchased, or local Sony authorized dealer.

Before going through the check list below, first check to see whether the mains lead is connected firmly to a working outlet and whether the POWER switch and ON/STANDBY button are turned ON.

	Symptom	Possible causes and corrections
POWER	ON/STANDBY button does not function.	● The mains lead is disconnected or the POWER button is not pressed. ● The recorder is in the timer standby mode. Press the TIMER REC button so that the TIMER lamp goes off.
CLOCK AND TIMER	The clock has stopped at "0:00"	● There has been a power interruption. Reset the clock time and timer settings.
	Timer setting cannot be made.	● The clock time is not set
TV RECEPTION	TV programme is not clearly displayed on the TV screen.	● The channel for video recorder on the TV receiver is not correctly tuned. ● The channels on the recorder are not correctly preset. (See "TV STATION PRESETTING", page 6.) ● The antenna connections are not correct. ● The TV signal is weak. Adjust the direction of the antenna. ● The mains lead of the recorder is disconnected.
RECORDING AND PLAYBACK	No picture on the TV screen during recording or playback	● The TV's channel is not set to that preset for the video recorder. ● The station preset for the video recorder has not been fine-tuned.
	No recording	● The safety tab on the cassette has been removed.
	The desired programme has not been recorded.	● The INPUT SELECT switch has not been set correctly. ● When camera recording, the tape run/stop button on the camera has not been operated correctly.
	The displayed picture on the TV screen is not clear.	● The channel preset for the video recorder on the TV has not been fine-tuned. ● The video heads are contaminated. ● The cassette being played has been recorded on another video recorder. Adjust the NORMAL/×2 TRACKING control.
	Timer recording cannot be made correctly.	● The clock time is not set correctly. ● The turn-on day and the turn-on time have not been set correctly. ● The TIMER REC button has not been pressed. ● There has been a power interruption. ● The cassette inserted has had the tab removed or no cassette has been inserted. ● The INPUT SELECT switch is not set to TUNER. ● Two or more timer settings overlap.
REMOTE CONTROL	The recorder cannot be remotely controlled.	● The remote control unit is not pointed to the detector on the recorder. ● The remote control unit is too far away from the recorder. ● An obstacle between the remote control unit and the recorder. ● The batteries are exhausted.
OTHERS	The time counter does not operate even if the tape moves.	● The tape is brand-new. ● It will not operate with the unrecorded portion of a tape.
	The function buttons cannot be activated.	● The tape is at either end of its travel.
	Cassette cannot be inserted.	● The recorder is turned off. ● The cassette being inserted is reversed. ● Another cassette has already been inserted.
	The cassette cannot be ejected.	● The recorder is turned off. ● The tape is moving
	Audio dubbing cannot be made.	● The cassette inserted has had its safety tab removed. ● The tape to be dubbed is blank. ● When the AUDIO IN jacks are used, nothing should be connected to the MIC jacks and the INPUT SELECT switch should be set to LINE/PCM.
	The tape stops suddenly during operation.	● The safety device which protects the video cassette tape and recorder has activated. Reactivate the previous tape transport mode.
	The function buttons cannot be activated with the EJECT lamp lit, immediately after the cassette has been inserted into the recorder.	● The safety device has activated. Press the EJECT button to remove the cassette and re-insert the cassette.